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ABSTRACT

This report, after thoroughly surveying the literature on anxiety, acceptance, and achievement, focuses on the relationship between a child's anxiety, peer acceptance, reading level, and overall school achievement as part of child development. Eight seventh-grade classes served as subjects for the study which examined such variables as age, sex, socioeconomic level, scores on Iowa Tests of Basic Skills, Iowa Silent Reading Test, and Children's Manifest Anxiety Scale with L-scale; and sociometric ratings of peers. Results show that anxiety does not relate significantly with the other variables under examination, with the exception of age. However, peer acceptance does reflect a relationship with school achievement, reading level, sex, and socioeconomic level. The author contends that since one justification for tracking students consists in freeing the child from the anxiety of competing with academically abler students, the absence of anxiety as a contributing variable supports the abolishment of such homogeneous groups. (Author/LAA)

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Anxiety, acceptance, and achievement in seventh-grade children

by

Margaret V. Holcomb

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Introduction

Education in the public school is being challenged both by educational critics and by the student bodies themselves (Cass, 1971; Christensen, 1971; Good & Brophy, 1971; Illich, 1971; Locke, 1971; Morse, 1971; Postman & Weingartner, 1971; Resnik, 1971; Seltz, 1971; Stansfield, 1971; Stocker, 1971; Wilson, 1971). Those who criticize have as many suggested correctional procedures as there are critics. In the vast concern over the "what" and "how" of teaching, it is possible that the most important segment of the educational chain, the child himself, is being overlooked.

The innovating classroom teacher, in searching for ways to improve the interaction between himself and the class and between the individual members of the class itself, is faced with the question of how each child meets crises within the school atmosphere. Ideally, the school environment will permit and assist the child as he progresses along the various stages of his own development. The school years extending from ages 5 through 18 include several stages for the varying facets of development. Within these years, the child must proceed with his physical as well as with his emotional, social, and intellectual development. Although devolopment during later childhood has periods that may vary for each child, basically the end of childhood might be described developmentally as relatively stable and industrious. Especially can the period be classed in such a manner when it is compared to the rapid changes facing the child as he enters adolescence. Ausubel (1958) identifies such times as periods of discontinuity as compared with periods of continuity. He

points out that within these periods, the crises of transition may lead to considerable anxiety.

The child in the pre-adolescent period of development is faced not only with the maturational discontinuity but also with the emotional discontinuity in that he experiences new demands of the educational system as he enters the junior high school. He must face many anxiety-provoking situations at this time as he adjusts to the new educational format. His accelerating physical growth may be cause for both embarrassment and delight. His family and the school become sources of pressure because now he is expected to achieve at the highest academic and social levels possible. As he matures, he is painfully aware of any of his individual differences, differences which may set him apart from his peer group from whom, at this age, he seeks both acceptance and support.

In the twentieth century, named by Rollo May (1950) as the "century of fear or the age of anxiety," it seems that educators and all those concerned with the education of youth should become aware of what anxiety is and how it may affect students specifically. From a symposium at the Menninger Clinic, Berthold (1963) discussed anxiety thus:

> Anxiety is properly viewed from the perspective of the clinician or counselor whose task it is to help a very anxious person. When seen in this context, anxiety often appears to be disteleological--a hindrance to a productive and happy life. Fear is usually teleological; it prepares us to meet or flee from a certain danger...But anxiety is the mother of the drive to know... More specifically I feel that anxiety is fundamentally a creative element in man's life, that it is a 'child of love' [pp. 69-71].

Symonds (1946) pointed out that much behavior is motivated by a "desire to escape anxiety by either reducing it or disguising it in one way or another" [p. 138]. Shaffer and Shoben (1956) identified anxiety as:

> another important emotional pattern that grows out of primitive distress of infancy. The feeling-tone of anxiety is much like fear, but the two emotions can be distinguished in a number of ways...Anxiety usually relates to the anticipation of a future situation, an apprehension of a probable pain, loss, or threat. Also anxiety is most often stimulated by qualities of a person himself rather than by external events [p. 49].

As Jersild (1960) defined anxiety, he pointed out that anxiety exists when a person "is troubled by reminders of a gap between what he is and what he pretends to be" [p. 361].

From these definitions, it becomes clear that psychologists have identified two types of anxiety: one which may be classed as a drive and the other which may be classed as emotionally debilitating, manifestation of which indicates the need for therapeutic treatment. The drive type of anxiety, according to Sarason, Davidson, Lighthall, Waite, and Ruebush (1960), should become the concern of educators. They pointed out that many anxious children are not identified as anxious early in their school career because they are able to function adequately. However, as the pressure of later childhood affects the child, he becomes so anxious that he can no longer achieve at the level where he will obtain success. Citing a specific case of a boy whose IQ was above 140, Sugarman and Freeman (1970) reported that the child was unable to find success in his school work until his anxiety had been successfully treated. For this reason, they stress the need to analyze school underachievers to be certain that they are not children suffering from undiagnosed and untreated anxiety.

Waite, Sarason, Lighthall, and Davidson (1958) found that there is a relationship between anxiety and learning in children. By pairing 747 children from grades two through five according to their anxiety level, they were able to measure the effect of anxiety on the highly anxious sub-

jects. The learning tasks presented to all children were sequenced from simple to complex. Their study found that the low anxious children performed better than the high anxious children on the more complex learning tasks. As Levitt (1967) summarized theories of anxiety and learning, he said:

> The two theories of the effect of anxiety on learning which have been most successful were developed by psychologists at the University of Iowa and at Yale. The Iowa position conceives of anxiety as a general, energizing drive. Its effect is to strengthen all available response tendencies in proportion to their strength at the moment of energizing. The response tendencies are ordered in a habit hierarchy depending upon initial strength. When the correct response ranks high in the habit hierarchy, performance at any particular moment is facilitated. This conceptualization applies most directly to simple learning situations. On complex learning tasks, the effect of anxiety is to interfere with learning at first, and to facilitate it eventually, when the correct habit moves up in the hierarchy as a function of practice [pp. 136-137].

In describing the Yale theory, he pointed out that the Yale researchers assume anxiety to be determined by the situation, with the individual developing his own characteristic responses to anxiety situations. Such responses may be:

> task-relevant or task-irrelevant, depending upon the nature of the task and the manner in which the learning situation is perceived by the individual. These factors are of much greater importance than the simplicity or difficulty of the task [p. 137].

In an attempt to measure anxiety to fit the "Iowa" definition, Taylor (1953) created the scale of manifest anxiety which measured the drive level of the subjects tested. She made two basic assumptions, first that internal anxiety would affect the level of drive and second that the intensity of this anxiety was measurable by means of a paper and pencil test. From the Taylor test, Castaneda, McCandless, and Palermo (1956) devised a chil-

dren's form of the manifest anxiety test. The Children's Manifest Anxiety Scale was originally administered only to fourth-, fifth-, and sixth-grade students. Both the MAS and the CMAS are constructed of specific statements to measure the subject's anxiety with Lie items embedded within the test to ascertain the subject's tendency to make himself appear more ideal.

In computing 30 relationships between anxiety, measured by the CMAS, and school achievement for fourth-, fifth-, and sixth-grade children, McCandless and Castaneda (1956) found 13 relationships to be significant. Their study pointed out the possibility that complicated learning skills such as reading suffer more from anxiety interference than simpler skills such as spelling. They found evidence that the anxiety interference would be greater for girls than for boys except for sixth-grade students and arithmetic.

Another study by Palermo and McCandless (1956) tested children on a 20-choice two-button panel test. The anxious, highly motivated children had more errors in their choices. A somewhat similar study by Kerrick (1956) compared manifest anxiety and IQ for relationships with discrimination. Her conclusions were that anxiety and IQ do not appear to interact, but the subject with a high IQ becomes less discriminating as the anxiety level is increased.

Using seventh- and eighth-grade scores for the Sequential Tests of Educational Progress, Feldhusen, Denny, and Condon (1965) found a highly significant relationship between reading and anxiety for boys only. In a study of college men, Grooms and Endler (1960) found significant relationships between the Test Anxiety Questionnaire and the Pennsylvania State

Aptitude Examination, as well as between the General Anxiety Questionnaire and the Pennsylvania State Aptitude Examination.

Recognizing and hypothesizing that the peer group becomes increasingly important as the child nears adolescence, McCandless, Castaneda, and Palermo (1956) compared anxiety and social acceptability in fourth-, fifth-, and sixth-grade children. They found that there was a high relationship for grade five, a moderate relationship for grade four, and almost no relationship within grade six. Horowitz (1962) suggested additional studies need to be made of the relationships between anxiety, self-concept, and sociometric status. Her study used fourth-, fifth-, and sixth-grade children who were tested on the CMAS, the Children's Self-Concept Scale, and a ranking sociometric. She concluded that since the more anxious child tends to have a poorer self-concept, he will be less popular within his peer group. Studies reported by Haggard (1957), Smart and Smart (1972), and Stein (1969) provide support for the hypothesis that there is also an interrelationship between the child's peer acceptance and his school achievement.

Kurzweil (1968) concluded his book Anxiety and Education with this paragraph:

> It only remains for me to reiterate that anxiety cannot be entirely purged from our lives: even if it were possible to do so, it would not be desirable. For anxiety in its milder manifestations has a stimulating effect upon us. It spurs us on to action, it is a motivator without which the higher activities of the soul would lie dormant and our human faculties become blunted. We have to live with our anxieties and it is the task of education to help us bear them [p. 197].

If educators and educational systems are to accept the challenge to be truly aware of the potentially damaging effects of anxiety as it is presented by researchers like Kurzweil (1968), Sugarman and Freeman (1970),

and Levitt (1957), they must find methods of carrying research into the classrooms. One method of studying the problem as it relates to the development of anxiety might be to test the hypothesis that there is no relationship between a child's anxiety and peer acceptance, reading level, or overall school achievement. This hypothesis then seems to generate these sub-hypotheses:

1. There is no relationship between anxiety and peer acceptance.
2. There is no relationship between anxiety and reading level.
3. There is no relationship between anxiety and overall school achievement.
4. There is no relationship between peer acceptance and reading level.
5. There is no relationship between peer acceptance and overall school achievement.

Therefore, the present investigation will focus on the relationships between anxiety, peer acceptance, reading level, and school achievement for children in the seventh grade.

Survey of Literature

In an analysis of the pertinent literature, relationships of anxiety, and the major variables may become more apparent if the review is presented in four divisions: (1) theory of anxiety, (2) anxiety, (3) acceptance, and (4) achievement.

Theory of Anxiety

Because of its many facets, anxiety is almost a paradox. Sugarman and Freeman (1970), in summarizing others' studies and their own clinical practice, report first that "anxious college students do more poorly in grades than those less anxious" [p. 32] and second that "anxiety is the force behind much learning" [p. 319]. Hiltner (1963) and Hoch (1950) also support these two behavioral extremes of the effects of anxiety. Anxiety also exists on a time continuum from "acute" (of short duration) to "chronic" (continuing) (Hanfmann, 1950, p. 51; Levitt, 1967, p. 13; Pruyser, 1963, p. 127). Rycroft (1968), in discussing the source of anxiety, stated "this as-yet-unknown may be either inside or outside themselves and the same emotion, anxiety, may be evoked by either subjective or objective occurrences" [p. 15].

As he summarized the existence of anxiety as a construct, Levitt (1967) pointed out that most researchers identify "trait anxiety, a predisposition to respond anxiously in a variety of situations, and a state, or transient condition of emotional arousal" [p. 194]. Cattell and Scheier (1961) used the terms "trait" (permanent) and "state" (momentary) as they tested various methods of identifying and measuring anxiety. Anxiety was defined also as either a drive state or as a trait state. Spence (1956)

defined the drive state as an "emotional response to a particular unconditioned stimulus" [p. 181] while Spielberger (1966b) identified the trait state as a "stable personality trait" [p. 16].

As Cattell and Scheier (1961) reviewed more than 10 years of research and several thousand subjects, they identified a lifetime pattern of high and low periods of anxiety. Using their cross-sectional data from ages 15 to 75, they found anxiety level highest at age 15. From age 15 to age 60, the trend was for anxiety to become less, but from 60-75, the level of anxiety rose quite sharply to reach the early high of the 15-year-old. Their studies measured anxiety by questionnaire, by rating, and by physiological measuring instruments. Referring to these studies, Cattell (1966) reported that:

> Although the steady decline of anxiety from adolescence to early maturity fits general conceptions of the maladjustments current at adolescence, the upward trend again after age 65 needs investigation, notably as to the relative extent of cultural (job-loss) and biological causation [p. 44].

The Cattell and Scheier (1961) studies lead to the conclusion that anxiety is not a genetic trait but the result of the anxious person's response to his own environment.

Horney (1937) listed these sequential reactions as anxiety reactions:

> In the first place, undertaking an activity about which we feel anxiety produces a feeling of strain, fatigue, or exhaustion... Many difficulties commonly ascribed to overwork are in reality caused not by the work itself but by anxiety about the work or about relations with colleagues... In the second place, anxiety connected with a certain activity will result in an impairment of that function. If there is, for example, an anxiety connected with giving orders, they will be given in an apologetic, ineffective manner [p. 57].

Malmo (1966) viewed anxiety theory as an "activation theory." Within this concept, he hypothesizes that there is a point at which activation

will lead to optimum achievement with performance being impaired on either side of this midpoint. Malmo supported the theory that anxiety produces interference in learning situations. Spence and Spence (1966), who support the theory that anxiety is a drive, studied the motivational components of manifest anxiety. They pointed out that the high drive anxiety subjects will perform poorly at the beginning of a training period but that as their correct responses lead to habit formation, they will become superior when compared with those of low anxiety.

In summarizing these theories of anxiety, one notes that the paradoxical qualities of anxiety are (1) its existence as both a positive and a negative force, (2) its existence as a trait or a state, and (3) its existence as a position on a somewhat unpredictable time continuum.

Anxiety

Early anxiety research used the laboratory animals to study the effect of anxiety on the stimulus-response reactions of the animals. Schoenfeld (1950) used rats and guinea pigs to compare the relationship between anxiety and escape and avoidance behavior in response to noxious stimuli. His studies concluded that anxiety acts when the neutral stimulus and the noxious stimulus are presented simultaneously to create a situation where reinforcement becomes possible. Using four groups of army paratroop trainees, Basowitz, Persky, Korchin, and Grinker (1955) studied anxiety reactions. They studied 30 men selected from a group of 700, 15 from 750, 100 from the next class, and 20 from a class of 600 by measuring psychological responses, psychiatric evaluations, and biochemical excretions. Between the groups of men, they found some statistically significant subtest corre-

lations when analysis of variance was performed. They identified the "end phenomenon" as the drop in anxiety following training which is followed by a rise in anxiety while perceptual performance continues to fall. They concluded that hippuric acid excretion was an accurate biochemical measure for anxiety measurement.

Manifest anxiety and IQ as they affected discrimination were studied by Kerrick (1956) who tested 200 male and 200 female high school students in grades nine through twelve. All were given the MAS and the Advanced Examination of the Otis IQ test. From this group, 20 subjects were chosen. The 20 were grouped in one of these four categories: the five highest IQ with highest anxiety, the five highest IQ with lowest anxiety, the five lowest IQ with highest anxiety, and the five lowest IQ with lowest anxiety. These four groups were tested on Osgood's Semantic Differential Test. The chi-square analysis of the upper and lower quartile on IQ was significant ($p<.01$). There was no statistical analysis of the interaction of IQ and anxiety on discrimination, but an observation was made that increasing anxiety on high IQ subjects did make them less discriminating.

Two hypotheses were tested by Iscoe and Cochran (1960). First that high CMAS scores were a symptom of maladjustment, and second that if manifest anxiety were related to adjustment, it should be identified on the California Test of Personality. They studied 118 boys and 96 girls with an average age of 10.4 years from six elementary classrooms. They selected from each classroom the five boys and five girls with the highest anxiety and the five boys and five girls with the lowest anxiety for a total of 60 subjects. Homeroom teacher ratings by teachers who did not know the subject's CMAS score led to a chi-square of 8.2 ($df=2$) significant at $p<.02$.

The rank order correlation of the first hypothesis yielded a rho of .37 ($p<.01$). The second hypothesis showed correlations between CMAS and "Total Adjustment" -.48 ($p<.01$), "Personal Adjustment" -.49 ($p<.01$), and "Freedom from Nervous Symptoms" -.59 ($p<.01$). These researchers recommend further study to compare drive level and adjustment.

To gain insight into the environments of children, Davidson (1959) selected 64 subjects from 747 children in grades two through five on the basis of scores of both Test Anxiety and General Anxiety scales. Children were excluded from the study if they had arithmetic, reading, or behavior problems. The selected children were living with both parents at the time of the study. The subjects were arranged in matched pairs on the basis of anxiety, sex, and grade. Each of the sets of parents were interviewed twice, with the second interview coming after a two-month interval. The mothers of High Anxious boys, when compared with the mothers of Low Anxious boys on a t test, were found to be more defensive with a t value of 1.745 almost significant at $p<.05$. High Anxious boys had more illnesses than Low Anxious boys ($p<.10$). Low Anxious children got higher marks than High Anxious ($t=1.900$, $p<.03$). For all the subjects, the ratings for the Low Anxious were more favorable ($p<.01$).

To build normative data for CMAS into the junior high school, Keller and Rowley (1962) tested 415 seventh-, eighth-, and ninth-grade children, 213 boys and 202 girls. They found the overall anxiety score differences between boys and girls significant ($t=2.85$, $p<.01$) with girls scoring higher than boys. Analysis of variance between grade and anxiety was not significant for boys, but it was significant for girls ($F=3.94$, $df=2.199$, $p<.01$). The ninth-grade girls scored higher than seventh- ($t=2.77$, $p<.01$)

and eighth-grade girls ($t=2.16$, $p<.05$). In describing the L-scale scores for boys, the analysis of variance yielded a significant F value ($F=8.51$, $df=2.210$, $p<.01$). They did not find any L-scale differences between the junior high subjects and elementary school subjects.

To compare the anxiety measured by the CMAS and the anxiety treated in a psychiatric hospital, Stone, Rowley, and Keller (1965) tested 44 boys and 30 girls from the hospital on the CMAS. In comparing their scores with the normative groups, they found that the t value for the junior high clinic boys and the normative junior high boys L-scale was 2.22 ($p<.05$), but for the girls, the t of 1.08 was not significant. Neither was the Anxiety Scale significant for either the boys or the girls. The results of this study were unexpected since the researchers had hypothesized the clinic population would have much higher anxiety scores.

These studies of anxiety indicate (1) the range of possible anxiety tests, (2) the many methods of testing available, and (3) the various kinds of anxiety which may be measured.

Acceptance

> Every child certainly needs to be accepted as he is, and not to be made feel unworthy because he is not as clever as his parents would have liked, or as beautiful, or as anything else [Biggar, 1966, p. 59].

Biggar's statement points out how very important acceptance is to any child even within his home. The importance of group pressure as a facet of each child's life is a strong psychological force "operating upon a person to fulfill others' expectations of him or to the behaviors specified by the 'norms' of the group to which he belongs" [Kiesler and Kiesler, 1969, p. 31].

To identify personality traits that were considered both socially successful and socially unsuccessful, Bonney (1943) studied the fourth-grade children in three schools in Denton, Texas. The trait ratings used were the ratings from the Carolyn McCann Tryon scale used in the Growth Study of Adolescents at the University of California Institute of Child Welfare (1939). This study dealt only with the child's rating of the three people whom he felt were friends and concluded with descriptions of reciprocal and unreciprocal pairs by varying percentages. Bonney's conclusions were that the child is accepted for what he is more than for what he does.

A group of 63 delinquent institutionalized New York boys of average age of 13.9 years were tested by Trent (1957) on the CMAS and a sociometric of three choices of most liked and three choices of least liked. To include the non-readers in the study, the researcher read the tests to the boys. The study found a correlation between choice and anxiety of Spearman $r=-.29$ ($p<.05$). The more anxious boy was less popular, and the aggressive boy might be rewarded by the group, but his behavior created group resentment.

Phillips, Hindsman, and Jennings (1960) studied 709 seventh-grade children from four Texas communities to determine the effects of intelligence on relationships between anxiety and attitudes toward self and others. They used the CMAS to measure anxiety, the California Test of Mental Maturity to measure intelligence, and scales developed for the Texas Cooperative Youth Studies to measure attitudes toward self and others. From the inventory scales, four were selected to indicate the way that each subject perceived himself, and four were selected to indicate the way each subject perceived others. The raw scores were converted to stanines based on

intelligence and sex before any statistical analysis was done. The analysis of variance indicated (1) interactions between intelligence and sex were not significant, (2) differences between levels of intelligence on anxiety and school inadequacy were significant, (3) teacher ratings of boys and girls differed significantly with the girls receiving more favorable teacher opinions. This study seems to indicate that the manner of showing or expressing anxiety varies from boys to girls.

To compare anxiety and social desirability, Bendig (1959) used 110 male and 128 female students in a college psychology course. The subjects were tested by the MAS, the IPAT, and the Edwards' Social Desirability Scale (1957). The anxiety measures were broken down into covert anxiety and overt anxiety. Relationships between covert anxiety and social desirability (-.56) were significantly lower than those of overt anxiety and social desirability (-.70). The overt anxiety was more highly related to combined social desirability and MAS (-76) than to the combined social desirability and non-MAS (-.48). Bendig concluded that his study may have actually found the items of the two anxiety scales which overlap.

To check the hypothesis that there is no correlation between personality adjustment and anxiety, L'Abate (1960) tested 49 boys and 47 girls from grades four to eight on the CMAS and the Rogers' Test of Personality Adjustment (1931). All subjects were average or above average on the Otis Self-Scoring IQ test. The correlation between anxiety and the total Rogers' test was significant ($z=2.94$, $p<.02$). L'Abate concluded that the anxiety scores may be the same but that the methods of "coping" with anxiety appear to vary for boys and for girls.

One hundred two college freshmen were selected from a group of 276 on the basis of scores on the MAS. These subjects were given the Bills-Vance-McLean Index of Adjustment and Values (1951) to measure their self-concept by Cowen, Heilizer, Axelrod, and Alexander (1957). Significant differences were found among anxiety groups on the self-concept index; for example, subjects with Low Anxiety had more adequate self-regarding attitudes. In comparing those with high Lie-scale and those with low Lie-scale, they found that those with the high Lie-scale had more adequate self-regard scores.

To investigate why children change their best friends, Austin and Thompson (1948) gave simple choice sociograms to 487 sixth-grade children in central New York at a two-week interval. The children named their best friends and told why this was their choice. On the retest, the children told why changes had been made. The results were given in simple percentages rather than statistically. Over the two-week-between-test interval, 40 percent of the children made no changes in their three best friends, 38 percent had made one change, 16 percent had made two changes, and 5 percent had changed all three choices. The reasons for these changes included: frequent association, similar interests, a cheerful child, a cooperative child, and other similar descriptions of the chosen child. This study gives some clues for those studying a relationship between peer judgments and anxiety to be sure reasons for change are controlled.

Barthell and Holmes (1968) were concerned by reasons for social isolation. They studied 20 hospitalized schizophrenics, 20 hospitalized psychoneurotics, and a control group of 40 matched subjects who had graduated from the same high school as each experimental subject. The high school

yearbooks were analyzed to determine diagnostic categories. The analysis of variance for the diagnostic categories was significant ($p<.01$) and for the types of activities the subjects engaged in while in high school.

To determine the relationships between anxiety, isolation, and susceptibility to social influence, Walters, Marshall, and Shooter (1960) tested 36 volunteer eleventh- and twelfth-grade boys in Toronto on a light-on and light-off box. The subjects assigned their own anxiety rating by percentage as it coincided with a six-point description of anxiety, such as "I feel extremely uneasy" to "I feel completely calm." Although this study was not submitted to statistical analysis, the researchers concluded that anxiety increased the effectiveness of social reinforcers. McCandless, Castaneda, and Palermo (1956) also studied anxiety and social status using fourth-, fifth-, and sixth-grade children, 203 boys and 184 girls from the public schools of a midwestern town. They made the sociometric measurement in two ways. Nine classes indicated a rank for each member of his class while six classes rated each classmate by indicating his position on a scale from 1 to 5. The anxiety was measured by the CMAS. Their hypothesis of a negative relationship between anxiety and social status was supported as the pooled product-moment correlations indicate: fourth-grade boys -.28 ($p<.05$), girls -.23; fifth-grade boys -.51 ($p<.01$), girls -.75 ($p<.01$); and sixth-grade boys -.16, girls .01.

Research seems to pinpoint interrelationships between anxiety and self-concept and between self-concept and peer acceptance. Lipsitt (1958) constructed a self-concept scale which lists 22 trait adjectives to finish an "I am" statement. The child indicates the degree to which each adjective is appropriate for a description of himself. Three of the adjectives are

considered negative traits. By prefacing each adjective by "I would like to be," Lipsitt developed an ideal-self scale also. The Self-Concept Scale, the Ideal-Self Scale, and the CMAS were administered to 47 boys and 62 girls in fourth grade, to 50 boys and 61 girls in fifth grade, and to 41 boys and 37 girls in sixth grade. By subtracting the self-concept score from the ideal-self score, a discrepancy score was determined. The correlations between CMAS and the Self-Concept Scale were: grade 4 boys -.40 ($p<.05$), girls -.63 ($p<.01$); grade 5 boys -.40 ($p<.01$), girls -.40 ($p<.01$); and grade 6 boys -.34 ($p<.05$), girls -.58 ($p<.01$). Between the CMAS and the discrepancy scales, the r's were: grade 4 boys .31 ($p<.01$), girls .51 ($p<.01$); grade 5 boys .24, girls .39 ($p<.01$); and grade 6 boys .20, girls .39 ($p<.05$). Lipsitt concluded that there is a high correlation between anxiety and self-concept.

Combining the Lipsitt Self-Concept Scale, the CMAS, and a ranking sociometric, Horowitz (1962) also studied fourth-, fifth-, and sixth-grade children. The Pearson correlations of CMAS and the ranking sociometric are reported as fourth grade, 21 boys -.40 ($p<.05$), 19 girls -.49 ($p<.05$); fifth grade, 30 boys -.20, 21 girls -.15; and sixth grade, 11 boys -.30, 9 girls -.56. Although significance was not obtained for fifth and sixth grades, Horowitz pointed out a consistent tendency toward the child with the poorer self-concepts being more anxious.

Cunningham (1951) began her report on group behavior by stating:

> We feel as though we have a comet by the tail. The more we investigate the forces of human relations and group dynamics, the more we recognize their power and the more we know that there is need for further study of these areas by groups of boys and girls, teachers, parents and other youth leaders [p. vii].

The Cunningham study was developed to identify various facets of group interaction and to create measures to determine the effectiveness of various types of interaction especially from the point of view of what a classroom teacher can do to use natural group behaviors and relationships throughout the school system.

Five hundred twenty-five sixth- and seventh-grade children were studied for two years by Laughlin (1954) who was investigating to find factors relevant to peer status of children from the sixth- and seventh-grade age group and to discover how the movement from an elementary school to a junior high school changed peer acceptance for the children. Peer status and similar information were identified by means of an experimental test from the Horace Mann-Lincoln Institute of School Experimentation, the Classroom Social Distance Scale, and another experimental test from the same scource, the Social Analysis of the Classroom. The distance scale marked for each subject five choices ranging from positive acceptance to total rejection for each of the subjects within his classroom.

In the analysis, Laughlin (1954) had the subjects list children to match 37 personality traits. The sixth-grade children were allowed to choose the classmates they would have for seventh grade. Their requests fell into groupings which allowed each child to have at least some of his choices. From the tests, each child was assigned a social distance score and a self-acceptance score, as well as an assertiveness score and a count of the total number of times he received mention by his classmates. By the time all tests were processed, each child had 36 variables which were coded and subjected to coefficients of correlation.

Laughlin found that mental ability and academic achievement had a much lower correlation with group social acceptance than such desirable personality traits as friendliness, likeableness, goodlookingness, cheerfulness, and enthusiasm. The correlations were reported for each trait without a probability statement. Laughlin concluded that it is impossible to predict when the child should be permitted to choose his classmates and when he should be assigned to a particular group.

Jennings (1959) studied 457 girls aged 12 to 16 years at the New York State Training School for Girls. By choosing this group of girls, it was possible to set up the experiment with a population that was closed and, at the same time, establish a control group who were also members of a closed community. Each subject chose or rejected the members of the closed group on the basis of four criteria of association. They were retested after eight months. The social expansiveness of the individuals showed a positive relationship to the length of residence at the .01 level of significance, product moment r=.34. There were significant correlations between the choices for leisure activities and for work activities (r=.61 and .70 for the two groups). The study allowed Jennings to analyze the various selections and reciprocal choices to determine a pattern for analyzing interpersonal relationships and to permit this pattern to be generalized to an open community. The in-depth reasons given for choices provide a clue to inner problems, for Jennings found that a subject who had not indicated his own problems would give as a reason for choice the fact that the chosen subject had a particular problem which was parallel to her own.

Dineen and Garry (1956) investigated relationships between sociometric choices and socio-economic status. Their experimental population was made

up of 91 children in grades one, three, and five in a Boston suburb with the control group of 79 from grades two, four, and six. Three sociometric tests were given at five-week intervals and then a fourth test after another six-week period. The children from the upper socio-economic group made more "in group" choices than the children from the lower socio-economic group. Within the experimental group after the first test, classroom seating was manipulated so that each child was seated next to at least one of his first three choices. In addition, the isolates were placed as close as possible to the most chosen child in the room. They found that on each successive test, the upper middle-class group did make fewer in-group choices, but they concluded that although this method of seating seemed to break down barriers, it appeared to need additional methods for breaking down the cleavages that exist.

Testing 90 eighth-grade children at two-month intervals on a three-choice sociometric, Elkins (1958) studied relationships between socio-economic status and choice status. The rank order correlations between socio-economic status and choice status were $r=.53$ ($p<.01$), $=.40$ ($p<.05$), and $=.44$ ($p<.05$). Comparing IQ and choice status, the correlations were $r=.47$ ($p<.01$), $=.57$ ($p<.01$), and $=.23$ (n.s.). The correlations for IQ and socio-economic status were $r=.17$ (n.s.), $=.35$ (n.s.), and $.46$ ($p<.01$). The correlations for the three rooms between achievement and choice status were not significant.

Schmuck (1963) studied 727 children in 27 classrooms from upper elementary grades through senior high school. Each child chose the four students he liked most and the four he liked least and indicated his attitudes toward himself and toward school. The chi-square for actual status to cog-

nized status = 18.77 ($p<.001$), actual status to utilization = 15.85 ($p<.001$), and cognized status to utilization = 19.87 ($p<.001$). Schmuck concluded that the child who was aware of his choice status when it was low was a child who did not utilize his academic abilities as well as the child who knew his high status and was correct in this knowledge.

To summarize the impact of acceptance on a child's life, one finds that (1) acceptance is an important aspect of peer relations, (2) acceptance appears to be related to anxiety, and (3) acceptance seems to be correlated with socio-economic status.

Achievement

To compare anxiety, school achievement, and intelligence, McCandless and Castaneda (1956) used the CMAS, the Iowa Every Pupil Test, and the Otis Quick Scoring Mental Ability Test to evaluate fourth-, fifth-, and sixth-grade children. Since only the sixth-grade children took the Otis, the intelligence data is available for that grade only. There were 30 possible relationships that were computed between anxiety and school achievement. Of these 30 relationships, 13 were significant. Those relationships achieving significance for a Pearson r at the .01 level for the sixth-grade population included reading comprehension, spelling, arithmetic computation, and the composite scores. Their study indicated a tendency for girls to show more anxiety interference than boys.

To investigate social class, sex, and anxiety as they interrelate with school achievement, Phillips (1962) chose 759 subjects from 1,500 students in seventh grade of four Texas school communities. The test instruments used were the California Test of Mental Maturity, the California Achievement

Test, the Sequential Test of Educational Progress, and the CMAS. Each subject was assigned an index of social class based on the occupation and education of his parents. Teacher evaluations for the subject areas of language arts, mathematics, and social studies were also included. In reporting the analysis of variance of Fisher z transformations, F's significant at the $p<.01$ level were sex 75.09, social class 96.17, achievement 244.39, sex x social class 81.65, sex x anxiety 17.09, social class x achievement 29.04, sex x social class x achievement 18.61, and sex x anxiety x achievement 7.87. When the chi-square analysis of distribution of anxiety scores by sex and social class are computed, increased anxiety of female subjects of both social classes was 27.88 ($p<.01$) resulting in lower intelligence scores. Increased anxiety for males 8.64 ($p<.01$) resulted in higher intelligence scores for the lower class. For middle-class males, Phillips found that teacher grades were lower than mean intelligence for both high and low anxiety groups, but for the lower class, this was true only for the low anxiety group of males.

Discussing anxiety and academic achievement, Spielberger (1966a) noted that students from Duke University acknowledged that anxiety reduced both their "effectiveness in studying" and their "thought processes during examinations" [p. 361]. Students felt blocked in answering questions for which they knew the answers. A study by Spielberger reported in the above paper found performance of highly anxious subjects was inferior to that of low anxious subjects when the tasks were difficult, however, on the simple tasks the high anxious were superior. In following up these subjects after three years, Spielberger found that 20.2 percent of the high anxious had

dropped out of the university as compared to 5.8 percent of the low anxious subjects.

In England, two studies were conducted by Lynn (1957). The subjects for one were 80 unselected normal children aged 7.5 to 11.0 years, and for the other, 45 normal secondary boys aged 14.6 to 15.6 years were studied. He used his own anxiety test for the lower age group and the Schonell Graded Reading Test. For the secondary boys, he used Cattell's Mechanical Arithmetic Test, Schonell's Graded Reading Test, and the MAS cut to only 20 questions appropriate for British boys. No statistical treatment of the data was reported, however, Lynn found a positive association between good reading scores and poor arithmetic scores with anxiety. Lynn proposed that the highly anxious child spends more time in solitary reading activities while his unanxious counterpart is engaged in more active pursuits.

In an attempt to eliminate anxiety in a testing situation, McKeachie, Pollie, and Speisman (1955) divided a college class into three groups to be presented three different testing situations. One group of 66 students was allowed to make any comment desired on the test, a second group of 75 students could choose from controlled types of comment for their expression of feeling about the test, and the third group of 70 students was allowed no freedom to comment about the test in any way. The lowest scores were made by those who could not comment and the highest by those who could comment freely $\bar{X}$ 34.45; F 10.5; $p<.01$. They hypothesized that the anxiety was lessened by the freedom of commenting on the test.

Stevenson and Odom (1965) compared anxiety and the performance of 318 fourth- and sixth-grade children in learning and problem solving tasks. The anxiety was measured by the Test Anxiety Scale (Sarason *et al.*, 1958).

The learning tasks were paired associates of nonsense trigrams, concrete discrimination, abstract discrimination, concept formation of geometric shapes, and anagrams in which the subject had eight minutes to generate as many words as possible from the word "generation." Subgroups of 10 subjects each were selected for each grade and sex based on high anxiety-high defensiveness, high anxiety-low defensiveness, low anxiety-high defensiveness, and low anxiety-low defensiveness. The analysis of variance for grade and anagrams yielded an $F=65.08$ ($p<.001$), anxiety and anagrams $F=13.09$ ($p<.001$), grade x anxiety and concept formation $F=7.46$ ($p<.01$), grade x anxiety and anagrams $F=5.47$ ($p<.05$). They found that:

> high levels of anxiety had a disruptive effect on performance in tasks utilizing verbal materials, and, for boys, in the concept-formation task. Level of anxiety did not have a significant effect on performance in the two discrimination tasks [p. 1011].

Three hundred five Yale undergraduate students were the subjects for a study by Sarason (1957) as he compared test anxiety, general anxiety, and intellectual performance. He used the General Anxiety Scale and the Test Anxiety Scale as measures of different types of anxiety. Scholastic Aptitude Test, Mental Aptitude Test, and grade point averages provided the intellectual measures. Correlations reported as Pearson r's are TA and SAT=-.14 ($p<.05$), MAT=-.20 ($p<.01$), GPA year 1=-.14, year 2=-.17 (both $p<.05$), and GA and GPA year 1=.19 and year 2=.19 (both $p<.01$), and year 4=.14 ($p<.05$). Sarason pointed out the tendency of test anxiety to disappear the longer the subject was in college.

To study the effect of anxiety on academic achievement, Grooms and Endler (1960) tested 116 male college students in an introductory psychology course. The tests used were the Test Anxiety Questionnaire, the Gen-

eral Anxiety Questionnaire, the Pennsylvania State Aptitude Examination, and a formula for predicting grade point average. The t test to compare High Anxiety subjects with Low Anxiety subjects was not significant in a linear relationship so they treated anxiety as a modifier variable to build a correlation matrix for 91 of the subjects. Relationships significant at the $<.05$ level were test anxiety and predicted grade point. Those significant at the $<.01$ level were test anxiety with general anxiety and with Pennsylvania State Aptitude Examination; general anxiety with PSAE; PSAE with predicted GPA, with semester average, and with cumulative average; and predicted GPA with semester average and with cumulative average.

Feldhusen and Klausmeier (1962) compared anxiety, intelligence, and achievement of 120 boys and girls using CMAS, WISC, and the California Achievement Battery. For these fifth-grade subjects, the analysis of variance showed anxiety related to reading for boys -.48 ($p<.01$) and girls -.38 ($p<.01$); anxiety related to arithmetic for boys -.48 ($p<.01$) and girls -.43 ($p<.01$); and anxiety related to language for boys -.49 ($p<.01$) and girls -.43 ($p<.01$). They noted that the mean anxiety level was significantly higher for girls than for boys.

No evidence of correlation between anxiety scores and intelligence measured by a college entrance test and grade point average was found by Davids and Erikson (1955). They measured anxiety with the MAS for 40 male undergraduate students. A word association test of 100 nouns was used to find variety of beliefs and personality traits. The product moment correlations of MAS and word association with 100 words were number of associations .45 ($p<.01$), number of anxiety responses .54 ($p<.01$), and percent of anxiety responses .34 ($p<.05$). Using 90 non-anxiety words, correlations

were number of associations .40 ($p<.01$), number of anxiety responses .42 ($p<.01$), and percent of anxiety responses .35 ($p<.05$). These correlations support some relationship between anxiety and productivity and intellectual attainment.

Feldhusen, Denny, and Condon (1965) compared anxiety, divergent thinking, and achievement for 273 seventh- and eighth-grade students. They used the CMAS and the Sequential Tests of Educational Progress. Using an abbreviated correlation matrix to show sex differences, the r for boys was -.28 ($p<.01$) and for girls -.09 (n.s.) in the relationships between reading and anxiety.

When studying achievement motivation, Kausler and Trapp (1958) used the MAS and the French Achievement Motivation Test for 103 male psychology students at the University of Arkansas. When achievement motivation was compared with anxiety, a rho of -.20 ($p<.05$) was reached and an overall chi-square was 6.17 ($p<.02$). They suggested the need to partial out anxiety when a researcher studies achievement motivation.

Using a midwestern city to which the fictional name Big City was given, Sexton (1961) studied the schools of the community to find possible relationships between education and the income of the people. To control for all possible differences, the researcher studied all of the high schools of the city rather than the two presumed to be at the very top and the extreme bottom of the income levels. To be sure that any other variations also were included, the final study included all elementary schools and junior high schools of the city. The total sample included nearly 300 schools.

Sexton calculated the average income level for each school. Achievement test scores were the Iowa Achievement Test. The grade equivalent scores for each income group were determined for grades four, six, and eight, since the test is given only to these grade levels. From the table showing these grade equivalents and incomes, it was found that in schools with incomes above $7,000, all schools were achieving above grade levels, while those below $7,000 were achieving below grade level. The fourth grade in the lowest income group was about one year below level; at the same time, the highest income group was at the grade equivalent of more than one year above level, a two-year achievement spread between the uppermost and the lowest income levels. The differences became greater for each year. The greatest score differences on individual skills appeared in reading that ranged from -.14 to +.20 for the two income extremes.

Within the study, Sexton also included questionnaires to determine the comparative happiness of children of the various income levels. From this questionnaire, the study pointed to the fact that children from the upper incomes were happier no matter how the word "happy" was defined. These questions showed a growing awareness of family income status as the children grew; for example, when the question asked whether they wished the parent had a better job, 42 percent of low status grade five children said that they wished this while 61 percent of older children in grade seven felt this status difference. Although some rank correlations were reported for relationships between income and parental involvement with the community, most of the report is given in means for various grade and income levels.

A study in Pennsylvania by Hill and Giammatteo (1963) analyzed relationships between socio-economic status and achievement in the elementary

school. The subjects were 223 third-grade children for whom Iowa Tests of Basic Skills, socio-economic level, and sex are compared. The Scott Foresman Reading Tests 1, 2, and 3 were also compared with socio-economic level. Reporting the correlation matrices for Scott Foresman and socio-economic status, significance at the $<.05$ level was reached on subtest 2, $r=.48$; test 6, $r=.50$; and test 7, $r=.35$. For test 3 subtest 1, $r=.37$ and test 6, $r=.58$ were both at the $<.05$ level of significance. The matrix for ITBS and socio-economic status included SES and sex .167; SES and vocabulary .838; SES and reading comprehension .902; SES and arithmetic skill .771; and SES and problem solving skills .772. Hill and Giammatteo felt that their study strengthened the evidence that socio-economic level does affect school achievement.

In summary, achievement is related to (1) anxiety, (2) peer acceptance, and (3) socio-economic status.

Summary

From this literature review, it becomes clear that (1) anxiety is a paradoxical facet within a child's life, (2) acceptance and anxiety appear related, and (3) achievement and acceptance seem to be interrelated with anxiety.

Methodology

Within the public school system, the seventh grade seems to coincide not only with the period of adolescent development problems but also with the period at the middle of the child's public school education. Children at seventh grade do seem to face both developmental problems and educational adjustments. The subjects for the present investigation were obtained from eight classes of the seventh grade assigned to two teachers at the same junior high school.

The Children's Manifest Anxiety Scale (Castaneda et al., 1956) and a sociometric test were administered to 165 children in the seventh grade. The school records of these children were surveyed to obtain information on age, sex, socio-economic level, grade equivalent scores on the Iowa Tests of Basic Skills and the Iowa Silent Reading Test, and grade point averages for grade six and for first semester grade seven.

The variables under consideration are the children's ages; sex; socio-economic level; scores on Iowa Tests of Basic Skills, Iowa Silent Reading Test, and Children's Manifest Anxiety Scale with L-scale; and sociometric ratings of peers.

Subjects

There were originally 185 subjects in the seventh grade assigned to two language arts teachers during four different class periods. Before the investigation could be initiated, two families moved from the school district. Of the remaining 183 students, 11 were omitted from the investigation because their parents requested that they not be included. In addition, seven parents failed to return the permission form after promising to

do so when contacted by telephone. The test group was 165 children, but one subject was dropped from the study because her attendance had been too erratic to be certain that all the test records were accurate. The total number of subjects, therefore, were 86 boys and 78 girls in the seventh grade at Central Junior High School in Newton, Iowa. Ages ranged from 146 months to 174 months with a mean age of 156.4 months and a standard deviation of 4.7 months (Appendix A).

The school records on each of the subjects provided achievement information of the subjective type in the teacher evaluations and of the objective type in standardized test scores from Iowa Tests of Basic Skills (Lindquist, Hieronymus, & others, 1956) and Iowa Silent Reading Test (Greene, Jorgensen, & Kelley, 1956). No child whose scores on these tests were not available was included in the study.

Tests

CMAS

The Children's Manifest Anxiety Scale (Castaneda et al., 1956) is an instrument to measure anxiety in children (Appendix B). The test is constructed of 53 statements which the subject marks as either a choice of yes or a choice of no to describe himself. Embedded within the test are 11 items which measure the subject's tendency to make himself appear more ideal. These items are the source of the Lie Scale. This L-scale indicates the subject's tendency to falsify his answers to the anxiety items. The CMAS is an adaptation for children of the Manifest Anxiety Scale (Taylor, 1953). Taylor created the MAS after making two assumptions:

> first, that variation in drive level of the individual is related to the level of internal anxiety or emotionality, and second, that the intensity of this anxiety could be ascertained by a paper and pencil test consisting of items describing what have been called overt or manifest symptoms of this state [p. 285].

The 42 anxiety items of the CMAS are scored by summing the number of yes answers. The L-scale is the sum of the yes answers to nine items and no answers to two other items. Castaneda et al. (1956) found a median anxiety score of 16 when they plotted the scores of their 386 subjects from fourth, fifth, and sixth grades. These subjects had L-scale means ranging from 1.81 to 3.07.

Additional research on the CMAS was conducted by Keller and Rowley (1962) whose population included all children from grades seven, eight, and nine from one school system plus children from grades four, five, and six from one elementary school from the same town. They found median anxiety scores of 16.1 for the 415 junior high children and 16.8 for the 311 elementary school children. The overall difference between mean anxiety scores of junior high boys and of junior high girls was significant ($t=2.85$, $p<.01$) indicating that girls of this age score higher than do the boys. The L-scale was tested by analysis of variance. The relationship between grade and L-scale for boys was $F=8.51$, df 2, 210, $p<.01$. Seventh and eighth grade boys scored higher than ninth grade boys ($t=3.45$, $p<.001$). Analysis of variance for girls for grade and L-scale was non-significant. At the elementary school level, an inverse relation was shown by the analysis of variance for grade and for L-scale ($F=17.18$, $p<.01$).

Stone, Rowley, and Keller (1965) used the CMAS to test anxiety levels of clinical patients referred to a hospital clinic. Their study indicated that the CMAS measured only a drive type of anxiety rather than the clini-

ical-psychoneurotic type of anxiety. Their study verifies an earlier study by Wirt and Broen (1956) who also found no relationship between clinical anxiety and the anxiety measured by the CMAS.

Although the CMAS has not been standardized, there are several reports of test-retest reliability studies. Castaneda et al. (1956) report one-week reliability of .90 for the anxiety measure of the CMAS and .70 for the L-scale. Palermo (1959) and Stone et al. (1965) report further normative data.

Sociometric

The sociometric technique is used to measure the tendency of one subject to select or to reject another subject for some specific situation. Moreno (1943) defined the sociometric as an instrument to measure two-way relationships from criterion which would draw sincere responses from the subjects. Since this relationship cannot be measured by a standardized test, each situation to be tested requires a sociometric designed for that particular situation.

There are two types of sociometric measures used commonly, the rank type in which each subject rates the others numerically in a one-, two-, or three-choice pattern and the rate type in which the subject chooses and rejects the other subjects by selecting a specific number, often three, for each choice category. There seems to be no preference for either the rank or the rate type of test, and neither seems to predict more accurately the choices of subjects (McCandless et al., 1956). Therefore, following these criteria, a sociometric was developed for this study.

To assure that each subject in the present study knew the students he was rating, a separate sociometric was prepared for each of the four class hours. Each sociometric included the names of children in both sections of the Language Arts class. For the purposes of determining sociometric choices, the two sections meeting simultaneously in adjacent rooms were treated as if they were one class. The names of the students were divided into lists of boys and lists of girls within each class. Each name then was assigned its position in the test list by use of a table of random numbers. The directions for the sociometric (Appendix C) ask the student to do four things: first, to circle the names of the three boys he liked best, second, to circle the names of the three girls he liked best, third, to draw a line through the names of the three boys he liked least, and fourth, to draw a line through the names of the three girls he liked least. The procedure of obtaining separate sociometric ratings for boys and girls was used because it was felt the basis for the choice of a peer was different when choosing a like-sex peer than for choosing an opposite-sex peer. It is particularly important to keep in mind this procedure when examining the results.

The sociometric is scored by assigning a +1 or a -1 for each choice or for each rejection, respectively, a child receives.

Achievement Tests

Iowa Tests of Basic Skills (Lindquist, Hieronymus, & others, 1956). The Iowa Tests of Basic Skills is administered in four sessions to provide 15 scores for children in grades three through eight. The subdivisions of the test measure vocabulary, reading comprehension, language with four sub-

tests and a composite, work study skills with four sub-tests, arithmetic skills with sub-tests, and a composite test percentile and grade equivalent for the entire test. The total testing time is 279 minutes for grade three and increases to 315 minutes for the junior high students. The test is scored by computer by the testing center for all schools using the test. The reliability coefficients are reported by Buros (1959) on split half of 500 cases for grade three as .97 and all other grades are .98. All sub-test reliabilities are reported as .80 or above.

Iowa Silent Reading Test, New Edition, Elementary Test (Greene, Jorgensen, & Kelley, 1956). The Elementary Form of the test for grades four through eight is administered in two sessions to provide nine scores. The sub-divisions of the test measure reading rate, timed comprehension, directed reading, word meaning, alphabetizing, and use of index. In addition, a median standard score to provide percentile and grade equivalents is computed. The total testing time is 49 minutes. The reliability reported by the authors from the standardizing population of 1942 using the Kuder-Richardson Formula 21 (1937) places the standard median score reliability at .95 for grade seven. The validity is also reported as somewhat questionable for current usage in The Sixth Mental Measurements Yearbook (Buros, 1965).

Procedure

The board of education for the Newton Community Schools was presented with both the research proposal (Appendix D) and the letter to be sent to the parents of the 185 student subjects (Appendix E). The board granted

permission for the project to be carried out provided each parent approved his child's being used in the study.

Letters explaining the project and requesting permission to test each of the 185 children were mailed to all of the parents. Included in each letter was a form to be marked to grant or fail to grant permission for the child to participate in the study and also a stamped self-addressed return envelope.

The school records of each child were surveyed to obtain grade point averages for grade six and for first semester grade seven, ITBS grade equivalent scores for grade six, and ISRT grade equivalent scores for grade seven.

During the same class period, the CMAS, following the standardized procedures (Castaneda et al., 1956), and the sociometrics were administered to each of the four classes within the two classrooms being tested.

Four sociometric scores for each subject were obtained by dividing the choices made by subjects into various sex and socio-economic level groups. Assignment of each child to a socio-economic level was made by determining the parent's occupational position on the North-Hatt Occupational Mean Scale (North & Hatt, 1947; Appendix F). A frequency polygon showing the actual distribution of parental occupations is presented in Figure 1. Parents' occupations ranged from a mean of 34 (welfare family) to a mean of 94 (physician). The median (Means 66-70) included such occupations as traveling salesman, carpenter, mail carrier, and bookkeeper. All children whose parents' occupations fell at or above Mean 68 were considered to be in one socio-economic level group while all children whose parents' occupa-

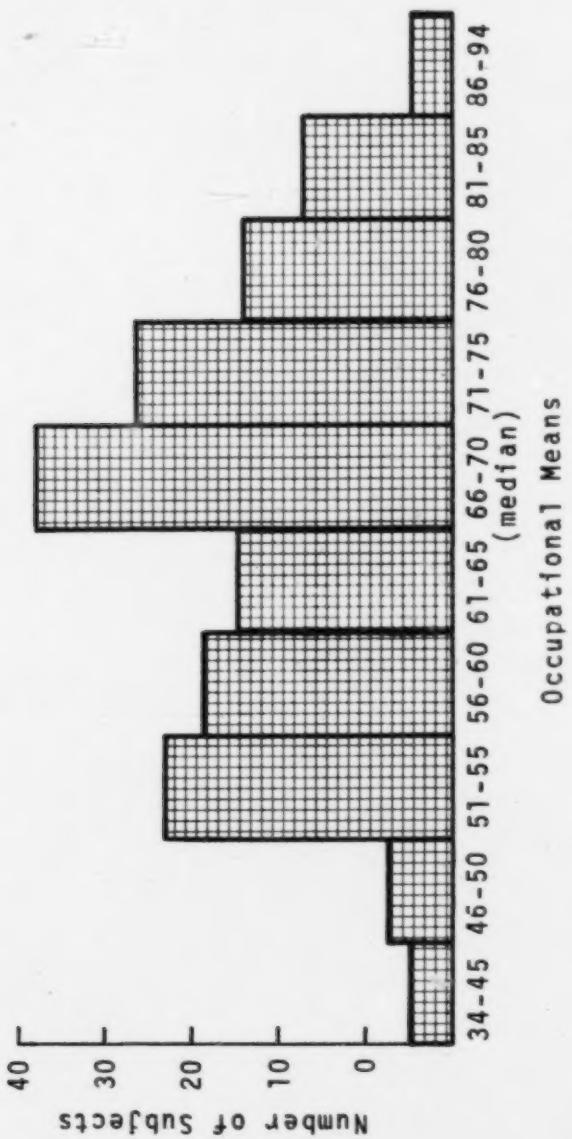

Figure 1. North-Hatt occupational mean frequency polygon.

tions fell at or below Mean 67 were considered to be in another socio-economic level group.

Any one child could receive positive and negative choices from children in each of two socio-economic level groups and from children of the same or opposite sex. Thus sociometric ratings for each child can be categorized into four groups according to sex and socio-economic level: Group I, same sex/same socio-economic level; Group II, same sex/opposite socio-economic level; Group III, opposite sex/same socio-economic level; Group IV, opposite sex/opposite socio-economic level.

The four groups of peer ratings are the dependent variables of the study while sex, age, socio-economic level, ITBS, ISRT, GPA 6, GPA 7, and CMAS and the CMAS L-scale are considered the independent variables. In addition to these variables, two other variables were constructed. The interaction between sex and socio-economic level was constructed by multiplying the codes for these two main effects (sex and SEL). The two scores from the CMAS, the anxiety score and the Lie-score, were used to form a third CMAS score by dividing the anxiety score by the Lie-score plus one $(\frac{\text{anxiety score}}{\text{Lie-score} + 1})$. All variables were scored according to standardized procedures or coded as described and prepared for computer analysis.

Statistical Analysis

Intercorrelations among the 15 variables based on the pooled within-classroom variance were obtained. The corrected sums of squares and cross products were computed for each classroom; these numbers for each variable or pair of variables were added. The correlations were obtained from these summed-over-classroom sums of squares and cross products just as convention-

ally done with sums of squares and cross products obtained from a single group.

Using this intercorrelation matrix, regressions were performed with the peer ratings as the dependent variables and various combinations of the 11 other variables as the independent variables. The regressions performed for each dependent variable are:

1) Y on all 11 independent variables

2) Y on all 11 except sex, socio-economic level, and interaction

3) Y on all 11 except ITBS and ISRT

4) Y on all 11 except GPA 6 and GPA 7

5) Y on all 11 except the three CMAS scores

These regressions permit significance tests for the four groups of variables indicated in 2 through 5 above.

Significant results are reported adjusted for all other variables in the regression model. For example, sex differences are reported adjusted for differences between the sexes in GPA and other sex differences recognized in the full regression model.

Results

The purpose of this study was to determine if there were any relationships between the anxiety, the peer acceptance, the reading level, and the school achievement of children in seventh grade. The independent variables under consideration were sex, age, socio-economic level, Iowa Tests of Basic Skills, Iowa Silent Reading Test, grade point averages for grades six and seven, Children's Manifest Anxiety Score with L-scale score, sex by socio-economic level, and Manifest Anxiety divided by L-scale score plus 1. The dependent variables were the four peer ratings identified by the sociometrics. Four sources of these peer ratings were considered: children of the same sex, same socio-economic level; of the same sex, opposite socio-economic level; of opposite sex, same socio-economic level; and of opposite sex, opposite socio-economic level.

The null hypotheses under study were that there is no relationship between a child's anxiety and the four peer acceptance ratings, reading level, or overall school achievement. The sub-hypotheses generated were (a) that there is no relationship between anxiety and peer acceptance, (b) that there is no relationship between anxiety and reading level, (c) that there is no relationship between anxiety and overall school achievement, (d) that there is no relationship between peer acceptance and reading level, and (e) that there is no relationship between peer acceptance and overall school achievement.

Each of the sub-hypotheses offers a means of identifying the various relationships contributing to the tenability of the basic hypothesis. Correlations between the variables are reported in Table 1.

Table 1

Correlation Matrix between Peer Ratings, School Achievement, Reading Level, Anxiety, Sex, Age, and Socio-economic Level (Pooled within Classroom)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Sex														
2	Age	-14													
3	SEL	-13	08												
4	ITBS	-02	-20	-31											
5	ISRT	12	-17	-33	73										
6	GPA 6	29	-23	-33	53	63									
7	GPA 7	26	-19	-42	65	65	69								
8	CMAS	24	-02	13	-10	-12	-11	-08							
9	L-scale	21	06	19	-42	-33	-26	-35	19						
10	SS/SSEL	12	-07	-25	34	30	46	46	-03	-16					
11	SS/OSEL	-10	-11	-25	27	23	31	40	-23	-12	55				
12	OS/SSEL	-06	01	-36	30	30	33	41	-11	-28	42	43			
13	OS/OSEL	05	01	-34	23	26	33	41	-00	-23	43	35	64		
14	Sex x SEL	66	-06	62	-25	-13	-00	-09	29	30	-09	-25	-32	-21	
15	CMAS ⋮ (L+1)	-03	-05	-13	36	25	21	31	37	-68	17	08	22	25	-12

r = 18, p<.05; r = 23, p<.01.
SS/SSEL-same sex, same socio-economic level
SS/OSEL-same sex, opposite socio-economic level
OS/SSEL-opposite sex, same socio-economic level
OS/OSEL-opposite sex, opposite socio-economic level

Achievement measures

Grades

Anxiety measures

Peer ratings

Anxiety and Acceptance

Inspection of Table 1 reveals that the correlations between the CMAS and the peer ratings reached significance at one point, CMAS and peer ratings of same sex, opposite socio-economic level ($r=-.23$, $p<.01$). The more anxious child is less likely to be selected by the same-sexed child of opposite socio-economic level.

The CMAS L-scale reached significance for the children of opposite sex regardless of socio-economic level. Children who tend to fabricate their own self-image less receive more selections from peers of the opposite sex, same socio-economic level ($r=-.28$, $p<.01$) and opposite sex, opposite socio-economic level ($r=-.23$, $p<.01$).

Comparison of the peer ratings with the constructed anxiety variable [CMAS $\div$ (L+1)] results in low level significance for the peer ratings of the same socio-economic level ($r=.22$, $p<.05$). Correlations for peer ratings of children of opposite sex and opposite socio-economic level ($r=.25$, $p<.01$) do achieve significance indicating that the combination of anxiety shown and the child's tendency to be dishonest in describing himself will affect the selection of that child by children from the opposite sex, opposite socio-economic level group.

When the number of possible significant relationships is considered, five significant relationships of relatively low level appear inadequate to reject a hypothesis. Therefore, the hypothesis stating that there is no relationship between anxiety and acceptance fails to be rejected.

Anxiety and Reading Level

The relationships between anxiety and reading level are not significant. However, the L-scale reaches significance ($r=-.33$, $p<.01$) and indicates that the child who has a lower score in reading is more likely to be dishonest in his evaluation of himself as evidenced by a higher score on the L-scale. The relationship between reading and the constructed CMAS also reached significance ($r=.25$, $p<.01$).

From these data, the hypothesis that there is no relationship between anxiety and reading level fails to be rejected.

Anxiety and Achievement

None of the correlations between anxiety and the achievement variables reaches significance. Again the L-scale is highly significant ($p<.01$) in its relationship with each of the four achievement measures (ITBS, $r=-.42$; ISRT, $r=-.33$; GPA 6, $r=-.26$; GPA 7, $r=-.35$). In each case, the relationship is negative indicating the tendency of the child who falsifies his image of himself to be less successful both on standardized achievement measures and on the subjective evaluation of his achievement as measured by his classroom teachers.

All four achievement variables reach significance ($p<.01$) with the constructed CMAS variable (ITBS, $r=.36$; ISRT, $r=.25$; GPA 6, $r=.21$; GPA 7, $r=.31$). Achievement as measured by these methods appears related to anxiety as measured by the CMAS $\vdots$ (L + 1). Again the significant relationships appear in conjunction with the L-scale rather than with the CMAS alone. Therefore, it is impossible to reject the hypothesis that there is no relationship between anxiety and achievement.

Acceptance and Reading Level

The relationships between the four peer ratings and reading level reach significance at $p<.01$ (same sex, same socio-economic level, r=30; same sex, opposite socio-economic level, r=23; opposite sex, same socio-economic level, r=30; opposite sex, opposite socio-economic level, r=26). The child who is successful in establishing satisfactory peer relationships regardless of sex and/or socio-economic level will also be successful in reading skills.

Data from these relationships fail to provide sufficient evidence to reject the hypothesis that there is no relationship between acceptance and reading level.

Acceptance and Achievement

Each of the four peer ratings reaches significance in its relationship with each of the four achievement variables (ITBS, ISRT, GPA 6, and GPA 7). All 16 correlations are significant at or beyond the .01 level (Table 1). The positive direction of these correlations indicates that regardless of sex and/or socio-economic level, children's choices are related to achievement as measured in this study.

These correlations provide evidence for rejection of the hypothesis that there is no relationship between acceptance and achievement.

Additional Relationships

The variable of sex was significant in its relationship with both grade point averages (GPA 6, r=29, $p<.01$; GPA 7, r=26, $p<.01$). Girls rather than boys achieve higher teacher ratings at both the sixth-grade level and the seventh-grade level.

Girls appeared to be more anxious and more likely to be dishonest as they evaluated themselves (CMAS, $r=24$, $p<.01$; L-scale, $r=21$, $p<.01$).

Age as a variable resulted in some significant relationships with achievement variables (ITBS, $r=-20$, $p<.01$; GPA 6, $r=-23$, $p<.01$; and GPA 7, $r=-19$, $p<.05$). In general, older children achieve at a lower level than younger children attending the seventh grade.

The socio-economic level of the child identified as high or low by ranking of the father's occupation on the North-Hatt Scale relates significantly with achievement measures (ITBS, $r=-31$, $p<.01$; ISRT, $r=-33$, $p<.01$; GPA 6, $r=-33$, $p<.01$; and GPA 7, $r=-42$, $p<.01$). The child ranking in the lower half of the North-Hatt Scale does not achieve as successfully as the child ranking in the upper half of the North-Hatt Scale.

Analysis of Variance

In order to test further the hypotheses suggesting relationships between the dependent and independent variables, separate analyses of variance were run on each of the four peer rating groups. The data thus derived are summarized in Table 2.

Inspection of Table 2 reveals that when sex, socio-economic level, and the interaction between them are considered as a separate variable, they appear to be independently related to peer ratings from all groups except same sex, same socio-economic level group. Thus sex and socio-economic level can be considered a factor in the ratings peers give to each other except where the child is being rated by children of his own sex and socio-economic level. Grade point averages for both the sixth and seventh grades also were considered as a separate variable which was found to be indepen-

Table 2

Analysis of Variance of the Four Peer-Rating Groups

Source	df	MS SS/SSEL	MS SS/OSEL	MS OS/SSEL	MS OS/OSEL
Sex, SEL, Sex x SEL	3	.00163	.01614**	.02247**	.01476*
ITBS, ISRT	2	.00984	.00473	.00084	.00849
GPA 6, GPA 7	2	.11392***	.05373***	.02779**	.04310***
CMAS, L-scale, CMAS ÷ (L+1)	3	.00289	.01263*	.00221	.00309
Error	152	.00480	.00464	.00479	.00487

SS/SSEL-same sex, same socio-economic level
SS/OSEL-same sex, opposite socio-economic level
OS/SSEL-opposite sex, same socio-economic level
OS/OSEL-opposite sex, opposite socio-economic level

*p<.05
**p<.01
***p<.001

dently related to each of the four peer-rating groups. In other words, children tended to rate their peers, regardless of sex or socio-economic level, on the basis of grades achieved.

The CMAS appeared to be independently related to peer rating from same sex cohorts of opposite socio-economic level ($p<.05$) but not to peer ratings derived from the other three types of cohorts. More detailed inspection of the results revealed no one of the three CMAS indices was significantly related to the peer ratings from same sex cohorts of opposite socio-economic level. Thus the evidence is not considered sufficient to reject the null hypothesis.

Of more interest is the relationship of all but one of the peer ratings with the demographic variables of sex and socio-economic level. These data are depicted in Figure 2 for the three significant results and are adjusted for the remaining variables. All three graphs indicate boys receive more net selections than girls, and children from high socio-economic level groups receive more net selections than children from low socio-economic level groups. Differences between sexes are greatest for the children from low socio-economic level groups, particularly when the ratings are from cohorts of the opposite sex and same socio-economic level. Girls from low socio-economic level groups are seldom selected by boys from higher socio-economic level groups. It seems that boys from the low socio-economic level group prefer the girls from the higher socio-economic level group. The preference of the boys from the low socio-economic level group for girls from the higher socio-economic level group is more marked than is the preference of the boys from the high socio-economic level group. This

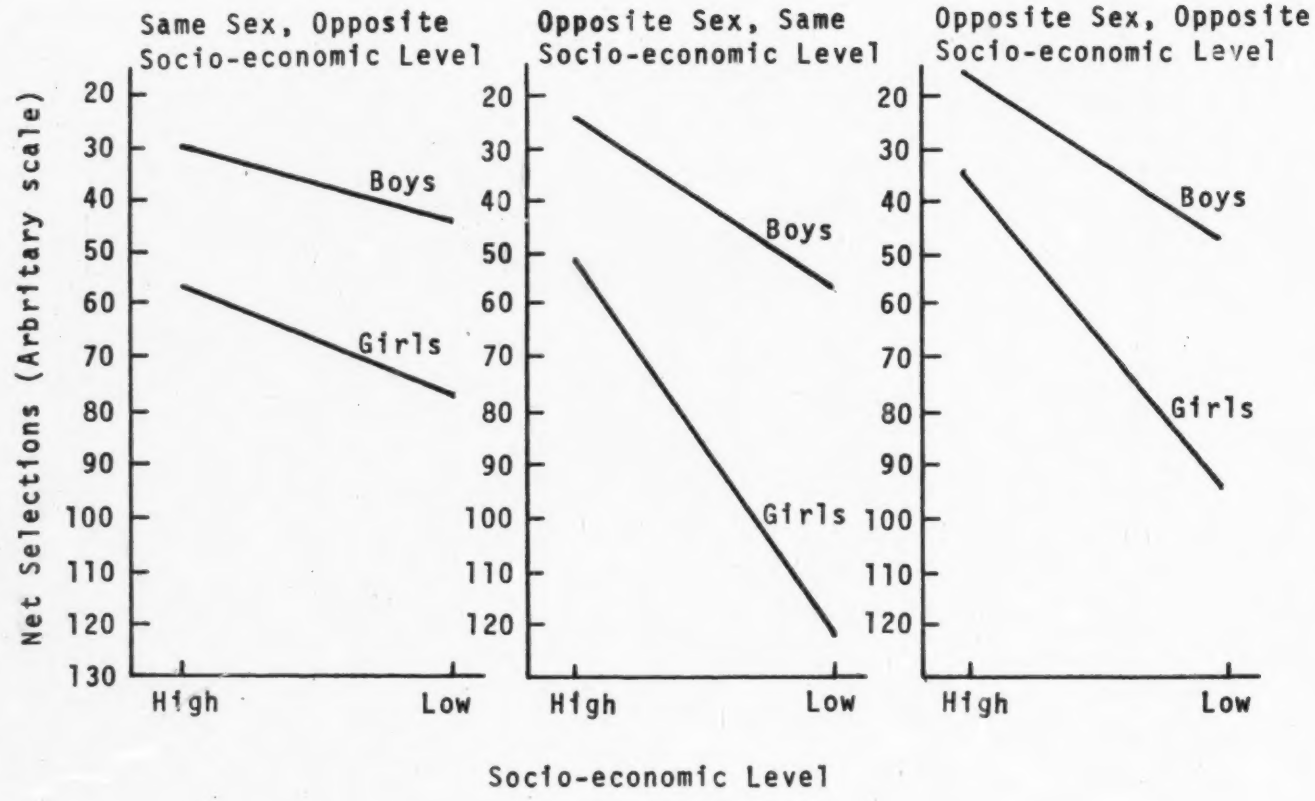

Figure 2. Mean peer rating of four groups from three sources adjustdd for GPA, ITBS, ISRT, and CMAS

tendency also is observed for girls' preferences for boys but is less pronounced.

Differences in the net selections of these four peer-rating groups, though significant, are not large. Of greater magnitude is the agreement between the four groups of peers relative to who is selected (Table 1). The two opposite-sex measures correlate .55, $p<.01$. The lowest of these correlations, .35, $p<.01$, is between the same sex, opposite socio-economic level and the opposite sex, opposite socio-economic level measures.

Also one must interpret these sex differences carefully since boys and girls were rated separately and not directly compared. These significant sex differences occur because girls get higher grades and the adjustment for grades results in greater adjusted net selection for boys. This complex relationship may be better understood by referring to the sociometric operations contained in Appendix C and by perusing the correlation matrix (Table 1). The zero order correlations of sex with the sociometric ratings are near zero, but sex correlates positively (females higher) with grades, which correlate positively with the sociometric ratings.

Discussion

The purpose of this study was to identify relationships which might exist between anxiety, peer acceptance, reading level, and school achievement for children in seventh grade. To permit focus on the results most specifically, the results will be discussed in this chapter within the following groupings: (a) anxiety, (b) acceptance, (c) achievement, (d) implications for educators, and (e) implications for further research.

Anxiety

Anxiety as identified in this study does not have highly significant relationships with the other variables under examination with the exception of age ($r=24$, $p<.01$). The positive relationship does not parallel part of the early findings of Castaneda et al. (1956) that there is a tendency for anxiety, as measured by the CMAS, to decrease as age increases. This tendency was especially noted for boys. However, the results of the Castaneda et al. studies also indicated that the drive effect of anxiety produces a strong relationship with achievement measures. The current investigation fails to support this viewpoint.

To explore possible reasons for the older child to be the more anxious child, the raw data was searched to identify all subjects who were more than four months older than the mean age of 156.35 months. This group includes 21 boys and 16 girls. Contrary to expectations, these children were not necessarily children who might have built up anxiety because of having been retained for a second year within a school grade.

Although significance was not reached between anxiety and the achievement measures, the negative direction of the relationships may support the

finding of Stevenson and Odom (1965) who found that teacher's ratings of children were related significantly to anxiety in a negative direction. In addition, Stevenson and Odom found the father's occupation related significantly negatively to anxiety. The present study found an insignificant negative relationship between anxiety and socio-economic level. Of interest, however, is the relatively significant positive relationship between CMAS and sex by socio-economic level ($r=29$, $p<.01$).

The present study also fails to support findings of McCandless and Castaneda (1956) who found anxiety was a successful predictor variable for school achievement measures. Phillips (1962) also found relationships between anxiety and teacher ratings which were not found by the current investigation. The fact that Phillips also studied seventh-grade children should have provided more chance that the results of the two studies would appear to support each other.

Within the anxiety measure, the L-scale was significantly and negatively related with all the achievement measures. Children who ranked high on the L-scale were more likely to rank low on basic academic skills, reading, and grade point averages. The strength of the correlations appears to follow, at least partially, the trend discovered by McCandless and Castaneda (1956) that both anxiety and the L-score were related to school achievement. Why the L-scale and not the CMAS is significant in the current investigation is unclear. The CMAS is thought to relate to drive type anxiety while the L-scale relates to the child's image of himself as he wishes to appear, either with complete candor or with camouflage.

Acceptance

The effect of the peer ratings as they interrelate with the other variables becomes highly significant in nearly all of the relationships involving school achievement.

The four peer-rating groups are related to school achievement, reading level, sex, and socio-economic level. The relationships between peer acceptance and academic achievement are not unexpected. Children who do well in school, as evidenced by grades, tend to be selected by their peers regardless of sex or socio-economic level. This is in accord with findings from other research as reported by Elkins (1958), Haggard (1957), Smart and Smart (1972), and Stein (1969).

When the peer-rating groups were analyzed, controlling for sex, socio-economic level, and the interaction between sex and socio-economic level, several interesting trends appear. Boys are rated higher than girls by their peers in all groups involving selections by opposite-sexed peers. However, males and females were not directly compared in the peer ratings so that these sex differences occur only as a result of the adjustment for grades where substantial differences between the sexes do occur. Children from higher socio-economic level groups are rated higher by their peers than children from lower socio-economic level groups. The differences between boys and girls tend to be greater for the low socio-economic level children than for the high socio-economic level children when selected by peers of the opposite sex but of the same socio-economic level. When same sex, opposite socio-economic level group children are considered, the difference between boys and girls is more nearly equal. Peer ratings within same sex, same socio-economic level groups did not produce any main effects. In this group, boys are rating boys and girls are rating girls from the same socio-economic level groups and the main effects of sex and socio-

economic level are not significant. It is possible that the relationships between socio-economic level and sex are so great that the grades tend to eliminate the differences with same sex, same socio-economic level peers.

The analyses of variance point out the strength of the achievement measures as predictor variables for each of the peer ratings. The strength of the grade point variables, which are in reality teacher ratings, seems to agree, at least in part, with the findings of Phillips (1962). Phillips divided his seventh-grade subjects into eight groups based on sex, social class, and anxiety to investigate relationships with school achievement and intelligence measures.

Achievement

When the analysis of variance was performed, controlling for all other variables, ITBS, and ISRT failed to demonstrate significant relationships with peer-rating groups. Apparently grades, sex, and socio-economic level contribute more to the peer ratings than standardized achievement measures. These two standardized achievement measures, ITBS and ISRT, correlate significantly with almost all of the independent variables under consideration.

Failure to establish a significant relationship for the anxiety measure of the CMAS alone was unexpected. Earlier studies by McCandless and Castaneda (1956) had found a relationship between anxiety and achievement in sixth-grade children. Phillips (1962) also found significant relationships between anxiety and school achievement for seventh-grade children. The tendency for the L-scale and the constructed anxiety variable to maintain significant relationships with the achievement variables agrees with the findings of McCandless and Castaneda.

The teacher ratings, reflected by the grade point averages, correlated significantly with all variables except the CMAS. The relationship with the constructed anxiety variable was highly significant apparently because of the strength of the relationship of the L-scale contribution to this variable.

Implications for Educators

This study raises questions about the relationships existing between various academic and social facets of a child's school environment. It has attempted to explore the potential certain phases of school life have for affecting the child's success or failure within the schools. Data from the study support the hypothesis that the peer relationships are related to academic achievement and to socio-economic status. Of particular importance is the fact that boys received more selections than girls as mediated by the adjustment for grades, as well as the fact that the children from the higher socio-economic level groups also received more net selections than the children from the lower socio-economic level groups. These peer ratings provide evidence that the children within a classroom are truly aware of each other and are fully cognizant of each other's abilities.

Little support is forthcoming from the present study to make a case for anxiety in children as a factor related to poor or good academic status.

Since one of the presumed justifications for tracking students is the need to free the child from the anxiety of competing with the more able students, the absence of anxiety as a contributing variable appears to support the abolishment of such homogenous groups of children.

The awareness of the child to the reality of his school environment indicates the need for the teacher to be aware also as a means of assuring efficient communication with the children.

Implications for Further Research

Since the study resulted in a large number of significant relationships, it seems further study might benefit by even more detailed divisions of the children for the peer rating evaluations. Specific sex differences could be more clearly identified by greater detail in groupings. In addition, a method of analyzing the strength of the sociometric rejection especially could provide an answer to what motivated the children who completely obliterated the names of rejectees rather than drawing a line through the names as they were instructed by the directions for the sociometric.

The fact that anxiety was not a significant variable raises questions about anxiety today. One possible explanation is that children express anxiety differently from the ways in which they expressed anxiety 15 years ago. It is possible that the children are different today because of cultural changes within the home and school environments. It is also possible that academic and social backgrounds of the children in the present investigation were entirely different from those tested by McCandless and Castaneda (1956).

Another question that this study raises is what change made anxiety fail to be a predictor variable for school achievement as supported by McCandless and Castaneda (1956).

Summary

This study was designed to investigate the possible relationships between anxiety, acceptance, reading level, and achievement for children in the seventh grade. Relationships between sex, age, socio-economic level, Iowa Tests of Basic Skills, Iowa Silent Reading Tests, grade point averages for grade six and first semester grade seven, Children's Manifest Anxiety Scale with its L-scale score, and peer ratings divided into sex and socio-economic classifications were studied.

One hundred sixty-four children in the seventh grade were tested on the CMAS and a sociometric and their school records were surveyed to obtain the information on their socio-economic level, ITBS, ISRT, GPA 6, GPA 7 data.

Intercorrelations among the 15 variables, pooled within classrooms, were obtained. These indices were obtained by forming the corrected sums of squares and cross products for each classroom and then adding these numbers for each variable or pair of variables. The correlations were obtained from these summed-over-classroom sums of squares and cross products just as conventionally done with sums of squares and cross products obtained from a single group. Using this matrix, regressions were performed using the peer ratings as the dependent variables using various combinations of the independent variables.

This statistical treatment identified a number of significant relationships that exist between the variables studied:

1. The combined grade point variables (sixth and seventh grade) are related to all four peer ratings involving sex and socio-economic level.
2. The sex and socio-economic level variables are related to peer ratings of same sex, opposite socio-economic level and of opposite sex, same socio-economic level.
3. CMAS is related negatively to all four peer ratings but reaches significance only with same sex, opposite socio-economic level group.
4. The fact that boys and girls were rated separately and girls had higher grades resulted in higher sociometric scores for boys when sex differences were adjusted for grades.
5. Children from the higher socio-economic level groups received more choices than children from the low socio-economic level groups.
6. Girls from the low socio-economic level groups did not appear to be chosen frequently by boys from higher socio-economic level groups while boys from the low socio-economic level tend to prefer girls from the high socio-economic level group.
7. The preferences of the boys from the low socio-economic level groups are more marked for the girls of the high socio-economic level groups than are the preferences of boys from the high socio-economic level groups for girls from the low socio-economic level groups.

Implications for educators are discussed focusing on the need for providing a school environment which will encourage successful achievement by the children. Implications for future research also are discussed.

References

Austin, M. C., & Thompson, G. G. Children's friendships. A study of the basis on which children select and reject their best friends. Journal of Educational Psychology, 1948, 39, 101-116.

Ausubel, D. P. Theory and problems of child development. New York: Grune & Stratton, 1958.

Barthell, C. N., & Holmes, D. S. High school yearbooks: A nonreactive measure of social isolation in graduates who later become schizophrenic. Journal of Abnormal Psychology, 1968, 73(4), 313-316.

Basowitz, H., Persky, H., Korchin, S. J., & Grinker, R. R. Anxiety and stress. New York: McGraw-Hill, 1955.

Bendig, A. W. "Social desirability" and "anxiety" variables in the IPAT anxiety scale. Journal of Consulting Psychology, 1959, 23(4), 377.

Berthold, F., Jr. Anxious longing. In S. Hiltner, & K. Menninger (Ed.), Constructive aspects of anxiety. New York: Abingdon, 1963.

Biggar, J. Psychotherapy and child development. London: Tavistock, 1966.

Bills, R. E., Vance, E. L., & McLean, O. S. An index of adjustment and values. Journal of Consulting Psychology, 1951, 15, 257-261.

Bonney, M. F. Personality traits of socially successful and socially unsuccessful children. Journal of Educational Psychology, 1943, 34, 449-472.

Buros, O. K. The fifth mental measurements yearbook. Highland Park, N.J.: Gryphon, 1959.

Buros, O. K. The sixth mental measurements yearbook. Highland Park, N.J.: Gryphon, 1965.

Cass, J. New orthodoxies for old. Saturday Review, 1971, 54(25), 39.

Castaneda, A., McCandless, B. R., & Palermo, D. S. The children's form of the manifest anxiety scale. Child Development, 1956, 27, 317-326.

Cattell, R. B. Anxiety and motivation. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966.

Cattell, R. B., & Scheier, I. H. The meaning and measurement of neuroticism and anxiety. New York: Ronald Press, 1961.

Christensen, J. A. Education and the delphic oracles. Media and Methods, 1971, 7(6), 48-51, 60-62.

Cowen, E. L., Heilizer, F., Axelrod, H. S., & Alexander, S. The correlates of manifest anxiety in perceptual reactivity rigidity and self-concept. Journal of Consulting Psychology, 1957, 21(5), 405-411.

Cunningham, R., & associates. Understanding group behavior of boys and girls. New York: Teachers College, Columbia, 1951.

Davids, A., & Erikson, C. W. The relation of manifest anxiety to association productivity and intellectual attainment. Journal of Consulting Psychology, 1955, 19(3), 219-222.

Davidson, K. S. Interviews of parents of high anxious and low anxious children. Child Development, 1959, 30, 341-351.

Dineen, M. A., & Garry, R. Effects of sociometric seating on a classroom cleavage. Elementary School Journal, 1956, 56, 358-362.

Edwards, A. L. The social desirability variable in personality assessment and research. New York: Dryden, 1957.

Elkins, D. Some factors related to the choice-status of ninety eighth-grade children in a school society. Genetic Psychology Monograph, 1958, 58, 207-272.

Feldhusen, J. F., Denny, T., & Condon, C. F. Anxiety, divergent thinking and achievement. Journal of Educational Psychology, 1965, 56(1), 40-45.

Feldhusen, J. F., & Klausmeier, H. Anxiety, intelligence, and achievement in children of low, average, and high intelligence. Child Development, 1962, 33, 403-409.

Good, T. L., & Brophy, J. E. The self-fulfilling prophecy. Today's Education, 1971, 60(4), 52-53.

Greene, H. A., Jorgenson, A. N., & Kelley, V. H. Iowa Silent Reading Test. New York: Harcourt, 1956.

Grooms, R. R., & Endler, N. S. The effect of anxiety on academic achievement. Journal of Educational Psychology, 1960, 51(5), 299-304.

Haggard, E. A. Socialization, personality, and achievement in gifted children. School Review, 1957, 65, 388-414.

Hanfmann, E. Psychological approaches to the study of anxiety. In P. Hoch, & J. Zubin (Ed.), Anxiety. New York: Grune & Stratton, 1950.

Hill, E., & Giammatteo, M. Socio-economic status and its relationship to school achievement in the elementary school. Elementary English, 1963, 40, 265-270.

Hiltner, S. Some theories of anxiety. In Hiltner, S., & Menninger, K. (Ed.), Constructive aspects of anxiety. New York: Abingdon, 1963.

Hoch, P. H. Biosocial aspects of anxiety. In P. Hoch, & J. Zubin (Ed.), Anxiety. New York: Grune & Stratton, 1950.

Horney, K. The neurotic personality of our time. New York: Norton, 1937.

Horowitz, F. D. The relationship of anxiety, self-concept, and sociometric status among fourth, fifth and sixth grade children. Journal of Abnormal and Social Psychology, 1962, 65(3), 212-214.

Illich, I. The alternative to schooling. Saturday Review, 1971, 54(25), 44-48, 59-60.

Iscoe, I., & Cochran, I. Some correlates of CMAS. Journal of Consulting Psychology, 1960, 24, 97.

Jennings, H. H. Sociometry in group relations (a manual for teachers). (2nd ed.) Washington, D.C.: American Council on Education, 1959.

Jersild, A. T. Child psychology. (5th ed.) Englewood Cliffs, N.Y.: Prentice Hall, 1960.

Kausler, D. H., & Trapp, P. Relationship between achievement motivation scores and manifest anxiety scale. Journal of Consulting Psychology, 1958, 22, 448-450.

Keller, E. D., & Rowley, V. N. Junior high and additional elementary school normative data for the CMAS. Child Development, 1962, 33, 675-681.

Kerrick, J. S. The effects of manifest anxiety and IQ on discrimination. Journal of Abnormal Psychology, 1956, 52, 136-138.

Kiesler, C. A., & Kiesler, S. B. Conformity. Reading, Mass.: Addison-Wesley, 1969.

Kuder, G. F., & Richardson, The theory of the estimation of test reliability. Psychometrika, 1937, 2(3), 151-160.

Kurzweil, Z. E. Anxiety and education. New York: Thomas Yoseloff, 1968.

L'Abate, L. Personality correlates of manifest anxiety in children. Journal of Consulting Psychology, 1960, 24, 342-348.

Laughlin, F. The peer status of sixth and seventh grade children. New York: Teachers College, Columbia, 1954.

Levitt, E. E. The psychology of anxiety. Indianapolis: Bob-Merrill, 1967.

Lindquist, E. F., Hieronymus, A. N., & others. Iowa Tests of Basic Skills. Boston: Houghton, Mifflin, 1956.

Lipsitt, L. P. A self-concept scale for children and its relationship to the children's manifest anxiety scale. Child Development, 1958, 29, 463-472.

Locke, R. W. Has the education industry lost its nerve? Saturday Review, 1971, 54(3), 42-44, 57.

Lynn, R. Temperamental characteristics related to disparity of attainment in reading and arithmetic. British Journal of Educational Psychology, 1957, 27, 62-67.

Malmo, R. B. Studies of anxiety: some clinical origins of the activation concept. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966.

May, R. The meaning of anxiety. New York: Ronald, 1950.

McCandless, B. R., & Castaneda, A. Anxiety in children, school achievement and intelligence. Child Development, 1956, 27, 379-382.

McCandless, B. R., Castaneda, A., & Palermo, D. S. Anxiety in children and social status. Child Development, 1956, 27, 385-391.

McKeachie, W. J., Pollie, D., & Speisman, J. Relieving anxiety in classroom examinations. Journal of Abnormal and Social Psychology, 1955, 50, 93-98.

Moreno, J. L. Sociometry and the cultural order. Sociometry, 1943, 6, 299-344.

Morse, D. The alternative, Media & Methods, 1971, 7(9), 28-34, 63-64.

North, C. C., & Hatt, P. Jobs and occupations: A popular evaluation. Opinion News, 1947, 9(4), 3-13.

Palermo, D. S. Racial comparisons and additional normative data on children's manifest anxiety scale. Child Development, 1959, 30, 53-58.

Palermo, D. S., & McCandless, B. R. The relationship of anxiety in children to performance in a complex learning task. Child Development, 1956, 27, 333-339.

Phillips, B. N. Sex, social class, and anxiety as sources of variation in school achievement. Journal of Educational Psychology, 1962, 53, 316-322.

Phillips, B. N., Hindsman, E., & Jennings, E. Influence of intelligence on anxiety and perception of self and others. Child Development, 1960, 31, 41-46.

Postman, N., & Weingartner, C. The soft revolution. New York: Dell, 1971.

Pruyser, P. W. Anxiety: Affect or cognitive state? In S. Hiltner, & K. Menninger (Ed.), Constructive aspects of anxiety. New York: Abingdon, 1963.

Resnick, H. S. Promise of change in North Dakota. Saturday Review, 1971, 54(16), 67-69, 79-80.

Rogers, C. R. Measuring personality adjustment in children nine to thirteen years of age. New York: Teachers College of Contributing Education, 1931, No. 548.

Rycroft, C. Anxiety and neurosis. London: Allen Lane, Penguin Press, 1968.

Sapirstein, M. R. Emotional security. New York: Crown, 1948.

Sarason, I. G. Test anxiety, general anxiety, and intellectual performance. Journal of Consulting Psychology, 1957, 21, 485-490.

Sarason, S. B., Davidson, K. S., Lighthall, F. K., & Waite, R. R. A test anxiety scale for children. Child Development, 1958, 29, 105-114.

Sarason, S. B., Davidson, K. S., Lighthall, F. F., Waite, R. R., & Ruebush, B. K. Anxiety in elementary school children. New York: John Wiley, 1960.

Schmuck, R. Some relationships of peer liking patterns in the classroom to pupil attitudes and achievement. School Review, 1963, 71, 337-359.

Schoenfeld, W. N. An experimental approach to anxiety, escape and avoidance behavior. In P. H. Hoch, & J. Zubin (Ed.), Anxiety. New York: Grune & Stratton, 1950.

Seltz, J. A teacher's guide to performance contracting. Grade Teacher, 1971, 88(8), 32-35, 76-79.

Sexton, P. C. Education and income: inequalities of opportunity in our public schools. New York: Viking, 1961.

Shaffer, L. F., & Shoben, E. J. The psychology of adjustment. (2nd ed.) Boston: Houghton Mifflin, 1956.

Smart, M. S., & Smart, R. C. Children development and relationships. New York: Macmillan, 1972.

Spence, K. W. Behavior theory and conditioning. New Haven: Yale University Press, 1956.

Spence, J. T., & Spence, K. W. The motivational components of manifest anxiety: Drive and drive stimuli. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966.

Spielberger, C. D. The effects of anxiety on complex learning and academic achievement. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966a.

Spielberger, C. D. Theory and research on anxiety. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966b.

Stansfield, D. The importance of being different. Media & Methods, 1971, 7(8), 33-36, 66.

Stein, A. H. The influence of social reinforcement on the achievement behavior of fourth-grade boys and girls. Child Development, 1969, 40, 727-736.

Stevenson, H. W., & Odom, R. D. The relation of anxiety to children's performance on learning and problem-solving tasks. Child Development, 1965, 36, 1003-1012.

Stocker, J. Accountability and the classroom teacher. Today's Education, 1971, 60(3), 41-50.

Stone, F. B., Rowley, V. N., & Keller, E. D. Clinical anxiety and the children's manifest anxiety scale. Journal of Clinical Psychology, 1965, 21, 409-412.

Sugarman, D. A., & Freeman, L. The search for serenity. New York: Macmillan, 1970.

Symonds, P. M. The dynamics of human adjustment. New York: Appleton-Century-Crofts, 1946.

Taylor, J. A. A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 1953, 285-290.

Trent, R. The relationship of anxiety to popularity and rejection among institutionalized delinquent boys. Child Development, 1957, 28, 379-383.

Tryon, C. M. Evaluations of adolescent personality by adolescents. Monograph of Society for Research in Child Development, 1939, 4, 4.

Waite, R. R., Sarason, S. B., Lighthall, F. K., & Davidson, K. S. A study of anxiety and learning in children. Journal of Abnormal Psychology, 1958, 57, 267-270.

Walters, R. H., Marshall, W. E., & Shooter, J. R. Anxiety, isolation, and susceptibility to social influence. Journal of Personality, 1960, 28, 518-529.

Wilson, D. F. What can the individual teacher do about accountability? Today's Education, 1971, 60(3), 51.

Wirt, R. D., & Broen, W. E., Jr. The relation of the CMAS to the concept of anxiety as used in the clinic. Journal of Consulting Psychology, 1956, 20, 482.

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A special thanks is also extended to the seventh-grade children and their parents for participating in the study.

Appendix A: Means and Standard Deviations of Variables

Table 3

Means and Standard Deviations of Variables

Variables	Means	Standard deviations
Sex	1.48	.50
Age	156.35	4.69
SEL	1.55	.50
Teacher/period	4.58	2.20
ITBS	6.43	1.72
ISRT	7.84	2.48
GPA 6	1.99	.41
GPA 7	2.46	.82
CMAS	19.02	6.92
L-scale	1.59	1.84
SS/SSEL	.08	2.63
SS/OSEL	-0.01	2.69
OS/SSEL	-0.14	3.28
OS/OSEL	.06	3.35
Sex x SEL	2.26	1.03
CMAS ÷ (L + 1)	10.88	7.38

Appendix B: Children's Manifest Anxiety Scale

Name _____

Date _____

Sex M _____ F _____

Read each question carefully. Put a circle around the word YES if you think it is true about you. Put a circle around the word NO if you think it is not true about you.

YES NO 1. It is hard for me to keep my mind on anything.

YES NO 2. I get nervous when someone watches me work.

YES NO 3. I feel I have to be best in everything.

YES NO 4. I blush easily.

YES NO 5. I like everyone I know.

YES NO 6. I notice my heart beats very fast sometimes.

YES NO 7. At times I feel like shouting.

YES NO 8. I wish I could be very far from here.

YES NO 9. Others seem to do things easier than I can.

YES NO 10. I would rather win than lose a game.

YES NO 11. I am secretly afraid of a lot of things.

YES NO 12. I feel that others do not like the way I do things.

YES NO 13. I feel alone even when there are people around me.

YES NO 14. I have trouble making up my mind.

YES NO 15. I get nervous when things do not go the right way for me.

YES NO 16. I worry most of the time.

YES NO 17. I am always kind.

YES NO 18. I worry about what my parents will say to me.

YES NO 19. Often I have trouble getting my breath.

YES NO 20. I get angry easily.

YES NO 21. I always have good manners.

YES NO 22. My hands feel sweaty.

YES NO 23. I have to go to the toilet more than most people.

YES NO 24. Other children are happier than I.

YES NO 25. I worry about what other people think about me.

YES NO 26. I have trouble swallowing.

YES NO 27. I have worried about things that did not really make any difference later.

YES NO 28. My feelings get hurt easily.

YES NO 29. I worry about doing the right things.

YES NO 30. I am always good.

YES NO 31. I worry about what is going to happen.

YES NO 32. It is hard for me to go to sleep at night.

YES NO 33. I worry about how well I am doing in school.

YES NO 34. I am always nice to everyone.

YES NO 35. My feelings get hurt easily when I am scolded.

YES NO 36. I tell the truth every single time.

YES NO 37. I often get lonesome when I am with people.

YES NO 38. I feel someone will tell me I do things the wrong way.

YES NO 39. I am afraid of the dark.

YES NO 40. It is hard for me to keep my mind on my school work.

YES NO 41. I never get angry.

YES NO 42. Often I feel sick in my stomach.

YES NO 43. I worry when I go to bed at night.

YES NO 44. I often do things I wish I had never done.

YES NO 45. I get headaches.

YES NO 46. I often worry about what could happen to my parents.

YES NO 47. I never say things I shouldn't.

YES NO 48. I get tired easily.

YES NO 49. It is good to get high grades in school.

YES NO 50. I have bad dreams.

YES NO 51. I am nervous.

YES NO 52. I never lie.

YES NO 53. I often worry about something bad happening to me.

Appendix C: Sociometrics

Name _____

Date _____

Seventh Grade L. A. Period III

To help me reach my goal of becoming a better teacher, I need to learn how you as a seventh grade student react to the other students in this hour. Following is a list of the names of some of the seventh graders in Period III Language Arts. You are being asked to tell which boys and which girls you like the most and the least. Will you please do four things:

1. Circle the names of the three boys you like best.
2. Circle the names of the three girls you like best.
3. Draw a line through the names of the three boys you like least.
4. Draw a line through the names of the three girls you like least.

Please note you are being asked to react to both boys and girls on this list.

BOYS		GIRLS
James	Joe	Debra
Frosty	Steve	Sheryl
Scott	Jeff	Karen
Doug	Barry	Jean
Jim	Joe	Lori
Brian	Bill	Jannette
Dave	Jerry	Mary
Mike		Sue
David		Annette
Brian		Marge
John		Bobbi
Steven		Susan
Rodger		Ellen
Tim		Julie
Ed		Kim

Name _____

Date _____

Seventh Grade L. A. Period V

To help me reach my goal of becoming a better teacher, I need to learn how you as a seventh grade student react to the other students in this hour. Following is a list of the names of some of the seventh graders in Period V Language Arts. You are being asked to tell which boys and which girls you like the most and the least. Will you please do four things:

1. Circle the names of the three boys you like best.
2. Circle the names of the three girls you like best.
3. Draw a line through the names of the three boys you like least.
4. Draw a line through the names of the three girls you like least.

Please note you are being asked to react to both boys and girls on this list.

BOYS		GIRLS	
Dan	David	Sheila	Linda
Doug	Dan	Mary	Beth
Mike	Mike	Velma	Donnita
Tom	Kevin	Jackie	Lisa
Steve	Brian	Kris	Nancy
Dennis	Mark	Rhonda	Kim
Kevin		Diane	Lori
Dennis		Patti	Tammy
Mark		LaWonda	Sue
Ron		Sara	
Dan		Teresa	
Doug		Jana	
Ron		Dara	
Jim		Kay	
Mike		Jane	

Name _____

Date _____

Seventh Grade L. A. Period VI

To help me reach my goal of becoming a better teacher, I need to learn how you as a seventh grade student react to the other students in this hour. Following is a list of the names of some of the seventh graders in Period VI Language Arts. You are being asked to tell which boys and girls you like the most and the least. Will you please do four things:

1. Circle the names of the three boys you like best.
2. Circle the names of the three girls you like best.
3. Draw a line through the names of the three boys you like least.
4. Draw a line through the names of the three girls you like least.

Please note you are being asked to react to both boys and girls on this list.

BOYS		GIRLS	
Tim	Bruce	Cecelia	Sonja
Dennis	Tim	Sandra	Annette
Barry	Jack	Carol	Kathy
Rod	Craig	Karla	Toni
Mike	Roger	Sheryl	Penny
Mitch	Gary	Mary	Cindy
Mark		Jane	Debra
Rick		Leni	
Jeff		Teresa	
Jeff		Sylvia	
Tom		Barb	
Carroll		Teresa	
Mike		Rita	
Scott		Teresa	
Brett		Missy	

Name _____

Date _____

Seventh Grade L. A. Period VII

To help me reach my goal of becoming a better teacher, I need to learn how you as a seventh grade student react to the other students in this hour. Following is a list of the names of some of the seventh graders in Period VII Language Arts. You are being asked to tell which boys and which girls you like the most and the least. Will you please do four things:

1. Circle the names of the three boys you like best.
2. Circle the names of the three girls you like best.
3. Draw a line through the names of the three boys you like least.
4. Draw a line through the names of the three girls you like least.

Please note you are being asked to react to both boys and girls on this list.

BOYS		GIRLS	
Randy	John	Pam	Diana
John	Eric	Diane	Connie
Jim	Dave	Bertha	
Jeff	Mark	Barb	
Mike	Ed	Rhonda	
Charles	Brad	Kristin	
Brad	Jim	Wendy	
Jerry	Richard	Karen	
Steve		Kenny	
Larry		Marcia	
Robert		Cheryl	
Rick		Tracie	
Randy		Anne	
Randy		Debbie	
Rick		Julie	

Appendix D: Research Proposal

DATE: December 1970
DEPARTMENT: Child Development
DEGREE: Master of Science
STUDENT: Margaret Holcomb
COMMITTEE: Dr. Damaris Pease, Chm.
Dr. Elaine Merkley
Dr. Leroy Wolins

PROPOSED TITLE: Anxiety, Peer Acceptance, Reading Level, and Overall School Achievement in Seventh Graders

BACKGROUND OF THIS STUDY: Within a school classroom there are many invisible forces affecting both the children and the teacher. Overt behavior may direct the observer to the identification of some of these forces, but some behaviors may camouflage the drives which created them. One of these drives may be anxiety.

Anxiety in children has been identified by Castaneda, McCandless and Palermo (1956) as manifest anxiety adapted from the Taylor Manifest Anxiety Scale (1953). This adaptation, the Children's Manifest Anxiety Scale, is thought to measure the anxiety drive in children.

Many studies have examined the relationships between anxiety and school achievement, particularly achievement in college (Grooms and Endler 1960). However, few studies have dealt with the relationship between anxiety, peer acceptance, reading level and overall achievement in early adolescents. There is some indication that this might be a fruitful area to investigate. McCandless and Castaneda (1956) using fourth, fifth and sixth grade students found anxiety related to school achievement for sixth graders, but not for fourth and fifth graders. Additional research was recommended by Horowitz (1962) when she found possible low level correlations between anxiety and self-concept and anxiety and sociometric status.

As a classroom teacher, this writer is intrigued by the possibility there may be a significant relationship between anxiety and variables such as peer acceptance, reading level, and overall school achievement. Should such a relationship exist, teacher behavior within a classroom could be modified to make the most positive use of the relationships as the children develop within the schools.

HYPOTHESIS: The general hypothesis is that there is no relationship between a child's anxiety and peer acceptance, reading level, or overall school achievement. From this hypothesis the following sub-hypotheses are generated:

a. There is no relationship between anxiety and peer acceptance.
b. There is no relationship between anxiety and reading level.
c. There is no relationship between anxiety and overall school achievement.
d. There is no relationship between peer acceptance and reading level.
e. There is no relationship between peer acceptance and overall school achievement.

OPERATIONAL DEFINITIONS:

Anxiety: The subject's score on the Children's Manifest Anxiety Scale (Castaneda, McCandless, and Palermo 1956). This test measures the drive level or role of drive or motivation in performance (Taylor 1953).

Peer acceptance: The positive and negative choices received by each subject when he has been rated by each of the forty-five students assigned to the same class hour.

Reading level: The grade equivalent median score on the Iowa Silent Reading Test, Revised Edition, Elementary Form AM administered in September 1970.

Overall school achievement: Each subject's composite grade equivalent on the Iowa Tests of Basic Skills administered when the subjects were in sixth grade. In addition a sixth grade grade-point will be developed from the teacher ratings for sixth grade.

SUBJECTS: The subjects are the seventh grade boys and girls in eight language arts sections assigned to two teachers in a junior high school in Newton, Iowa.

PROCEDURE:

1. Secure permission from the Newton Community Schools.
2. Collect and record background data from school records (age, sex, parental occupation, Iowa Silent Reading Scores, Iowa Basic Skills Scores, and teacher evaluations).
3. Administer the Children's Manifest Anxiety Test to each of eight sections of seventh graders.
4. Administer the sociometric rating scale.
5. Score and prepare data for statistical analysis (IBM cards).
6. Apply appropriate statistical analysis.
7. Prepare report.

ANALYSIS OF DATA: The data will be analyzed using statistical procedures for establishing multiple correlations.

REFERENCES:

Castaneda, A., McCandless, B. R., and Palermo, D. S.: The children's form of the manifest anxiety scale. Child Developm., 1956, 27, 317-326.

Grooms, B. R. and Endler, N. S.: The effect of anxiety on academic achievement. J. Educ. Psychol., 1960, 51, no. 5, 299-304.

Horowitz, Frances D: The relationship of anxiety, self-concept, and sociometric status among fourth, fifth, and sixth grade children. J. Abnorm. Soc. Psychol., 1962, 65, no. 3, 212-214.

McCandless, B. R. and Castaneda, A.: Anxiety in children, school achievement and intelligence. Child Developm., 1956, 27, 379-382.

Taylor, Janet A.: A personality scale of manifest anxiety. J. Abnorm. Soc. Psychol., 1953, 48, no. 2, 285-290.

Appendix E: Letter Requesting Parental Permission

Rhodes, Iowa 50234

Dear

As one of my requirements to receive my master's degree from Iowa State University, Ames, I must carry out a research project. Since I am working with seventh graders, I feel I could gain the most educational value from including seventh graders in my study. Your child is either in one of my language arts classes or in one of Mrs. Petroff's, who has agreed to cooperate with me.

The university has approved a plan in which I would give two short paper and pencil tests to students. These tests involve asking students to help me better understand how they organize themselves into interest and activity groups and how concerned they are about their own feelings. Response on the tests will in no way affect the students' grades. The information I gain from these tests is to be coded so that a computer can help me work out the relationships. Thus each student's answer can in no way be identified as his individually. I am primarily concerned with the group response rather than the individual response. No more than thirty minutes will be needed to take the tests.

If the study does find out some ways of helping students, this information will be shared with you and your seventh graders. When my study has been completed, I will be glad to visit with you about what I learn if my request to use your seventh graders has made you curious about my study.

May I have your permission to give the tests to _____?

Sincerely yours,

Mrs. Margaret Holcomb

dd

_____ I give my permission for _____ to be in the study.

_____ I would like to receive a report of the findings of the study.

_____ I do not give my permission for _____ to be in the study.

_____
Signature of parent or guardian

Appendix F: North-Hatt Scale of Occupational Means

NORTH-HATT SCALE

1963 Updating by Sociology Department

Iowa State University

94 U. S. Supreme Court Justice

93 Physician

92 Nuclear physicist

91 State Governor

Government Scientist

90 College professor

Cabinet member of the federal government

United States Representative in Congress

89 Diplomat in the United States Foreign Service

Lawyer

Chemist

88 Dentist

Architect

Court Judge

87 Member of the board of directors of a large corporation

Mayor of a large city

Psychologist

Minister

86 Priest

Head of a department in a state government

Airline pilot

Civil engineer

85 Biologist

Banker (president or chairman of board)

83 Sociologist

82 Captain in the regular army

Instructor in public schools (high school teacher)

81 Accountant for a large business

Public school teacher (grade school teacher)

80 Owner of a factory that employs about 100 people

Building contractor

78 Musician in symphony orchestra

Economist

Author of novels

77 Official of an international labor union

76 Electrician

County Agricultural Agent

Railroad engineer

75 Trained machinist

Owner-operator of a printing shop

74 Welfare Worker for a city government

Undertaker

Farm owner and operator

73 Newspaper columnist

72 Policeman

71 Reporter on a daily newspaper

70 Radio announcer

Bookkeeper

69 Insurance agent

Tenant farmer

68 Carpenter

67 Manager of a small store in city

Local Official of a Labor Union

66 Traveling Salesman for a Wholesale concern

Railroad conductor

Mail carrier

65 Plumber

64 Automobile repairman

63 Playground director

Machine operator in factory

Owner-operator of lunch stand

Barber

62 Garage mechanic

Corporal in the regular army

59 Truck driver

58 Fisherman who own his own boat

56 Streetcar motorman

Clerk in store

Milk route man

55 Restaurant cook

Lumberjack

54 Singer in a night club

51 Filling station attendant

50	Night watchman
	Railroad section hand
	Dock worker
	Coal miner
49	Taxi driver
	Restaurant waiter
48	Bartender
	Farm hand
	Janitor
45	Clothes presser in laundry
44	Soda fountain clerk
42	Share cropper
39	Garbage collector
36	Street sweeper
34	Shoe shiner